BIGGER & BETTER!

THE Mix

The UK's No.1 Recording Magazine

issue 48
May 98
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mag + cd

REVEALED! The Hottest New Gear Of '98!

All the latest and greatest studio gear from the NAMM Show

Software bonanza!
500+ music programs free with this issue

Yamaha MD8
Korg SG Rack
TR-606 Project
Rob Playford
Spirit FX16

Alesis XT20

Exclusive! What the new 20-bit ADAT can do for *your* music

Future Publishing
Your Guarantee Of Value
9 771354 428024 05

xt20

The new Alesis ADAT XT20 is a 20 Bit Digital Audio recorder offering a new standard in audio quality while remaining completely compatible with the huge foundation of over 100,000 ADATs in use worldwide. Using ADAT Type II, the only modular digital multi-track recording format that writes 20 bits to tape, the XT20 raises the standard of sonic excellence that ADAT recorders have established since their introduction in 1991. Rather than just a 25% increase, the jump from 16-bit to 20-bit recording provides audio quality that's sixteen times more detailed than the 16-bit sound of compact discs, resulting in a wider dynamic range and lower quantisation noise. This, coupled with high quality A-to-D and D-to-A convertors and the lack of any form of data compression gives unparalleled sonic quality.

LX20
20-BIT DIGITAL AUDIO RECORDER

M20
PROFESSIONAL 20-BIT DIGITAL AUDIO RECORDER

adat TYPE II

XT20: 24-bit x128 times ΔΣ oversampling A/D convertors and 20-bit x128 times ΔΣ oversampling D/A convertors (44.1 and 48kHz sampling rate operation), 24-bit ADAT Optical input capability, 20-bit data onto tape.

ALESIS *When Sound Quality Matters*

For a free brochure on the new ADAT Type II range please call Sound Technology on 01462 480000

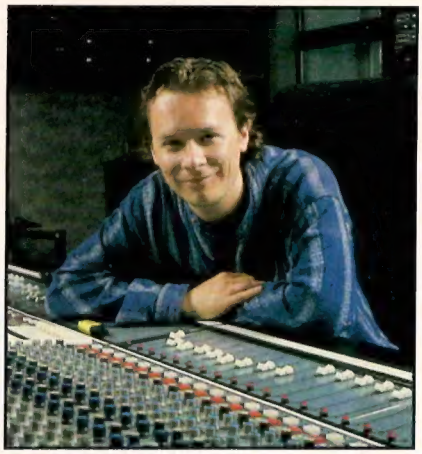
Sound Technology plc, Letchworth Point, Letchworth, Hertfordshire. SG6 1ND Fax: 01462 480800 www.soundtech.co.uk

CHOMPING AT THE BITS

"Your breasts feel strange," says Steve Martin to his scatty Santa Monican girlfriend in the movie *LA Story*. "That's because they're real," she replies.

That's kind of how I felt at the recent NAMM convention in Los Angeles (see full story on page 16). Not because of the presence of naturally-endowed Californian ladies – far from it. In fact, there was more silicon modelled by the ubiquitous PR girls than there was in chip form inside all the hi-tech goodies on display. No, it was the fact that virtually all of the products on display were fully-working units, not empty boxes with mocked-up panels. We've come to accept prototype boxes over the years as a necessary evil at trade shows, but lately the speed of development of new products has resulted in more finished kit appearing at the shows. Anyone showing a new model too early can end up with egg on their face, since by the time the unit has got into production its technology may already be outdated.

Another thing that struck me at the show was the issue of bits and sampling rates. The new Alesis XT-20 (see exclusive review on page 30) makes great play of being 20-bit, but how many musicians and project



Pic: Inlaw at Mikes Studio in Bath

studio owners know what benefits increased bit depth can bring to their recordings? And is everyone playing by the same rules? When a manufacturer says their machine is 20-bit, does that mean 20-bit processing, 20-bit converters or 20-bit to tape? Or all three?

Wasn't it just a few years ago that hi-fi companies were telling us that 44.1kHz, 16-bit 'CD quality' was the last word in fidelity? Well in hindsight they were wrong, but what really is the last word in fidelity? How far do we have to go to get 'perfect' recordings? And it's not just bit depth either: we've had 96kHz DATs for a while now, but some engineers are starting to record at 192kHz. How does this affect the sound, and is it more important than the number of bits? Obviously there are cost/performance considerations, too, particularly for the smaller studio, but is there a compromise that suits both ear and wallet?

All these questions and more will be answered in the next issue of *The Mix*, where we ask industry experts what the real state of play is regarding bit depths and sampling rates. Clearly this is an issue that is going to run and run, and we want you to know the facts before you buy into a particular digital system.

In the meantime, check out what 20-bit does for the new ADAT in Bob Dormon's exclusive review. Now he's a man that knows all about silicon...

Chris Kempster

Chris Kempster, Editor

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About... THE Mix

The Mix is the essential accessory for the recording studio. Our equipment reviews, written by working producers and engineers, give you an impartial opinion of the latest studio and recording gear, and our interviews get to the heart of the current techniques and issues in the recording industry.

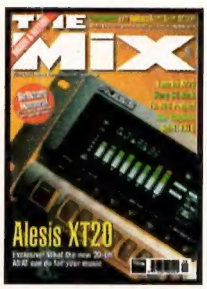
The Mix CD helps you produce better music, by providing studio-quality samples and MIDI files, demos of the latest software and hardware, and audio tutorials demonstrating contemporary recording techniques.

CONTRIBUTORS TO THIS ISSUE

MATT ROBERTS
An internet expert and former team member on our sister mag *Future Music*, Matt can remember marvelling when Tascam released their first Portastudio. Of course, the simple solution was never enough to keep him happy, and these days he's waiting for a 24-track recorder, automated mixer, effects unit and CD burner to be combined in one unit, which – based on the current rate of progress – means he shouldn't be waiting long.

RONAN 'RONALD' MACDONALD
is the editor of *Rhythm*, 'the greatest magazine in the world with drums in it'. When he's not playing Quake on the internet or cooking up some furious beats with Rebirth, Ronan can be found in the nearest pub preventing anyone from leaving until he says so. He also has a regular column in *The Band*, and has a special gift for bashing out live drum & bass breaks in his front parlour.

NORMAN FAY
A new contributor to *The Mix*, Norman could, if we're being impolite, be called a cynical old hippy. Let's not be too impolite though, because despite playing instrumental progressive rock – yes, you read that right – for the past ten years (and with about the amount of success one might deserve to have playing prog rock in the '90s), he still loves playing, hearing, and recording all kinds of music. He also does a mean David Seaman impression.



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TOP GEAR

The new Alesis ADAT XT20 doesn't look too much different from its groundbreaking predecessors, but underneath that familiar casing is a 20-bit 8-track recorder. Is it a radical improvement? Find out in our exclusive review on page 30...

Alesis XT20 (£2,299)
Digital audio recorder
Reviewed on page 30

PHOTOGRAPHY: GAVIN ROBERTS

ISSUE 48 MAY 1998

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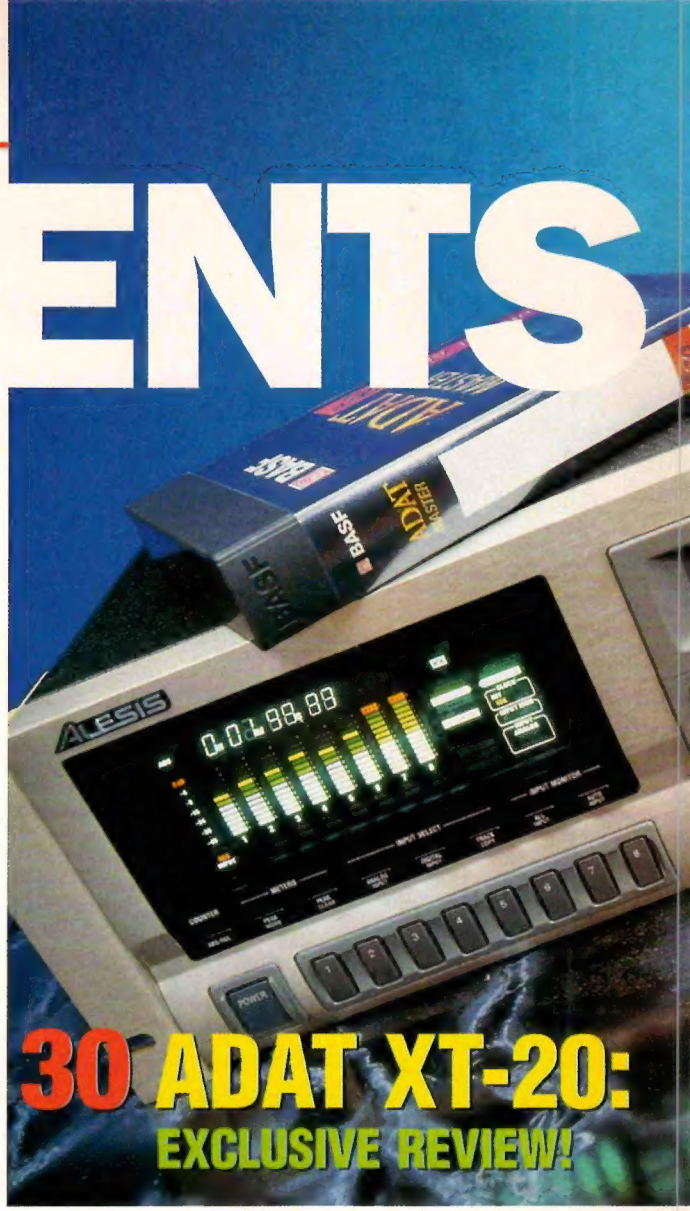

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FREE SOFTWARE CD
500+ MUSIC PROGRAMS – FULL LISTING
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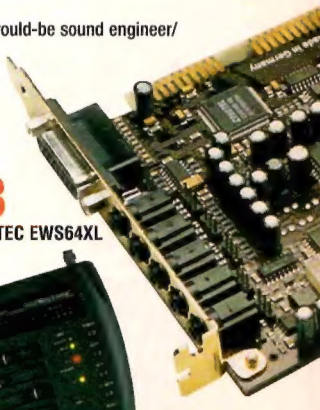

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55 DBX MC6

CD CONTEN

Guitars aplenty for your sampling pleasure this month, along with the usual helping of gear demos, exclusive tracks and software

PLEASE READ BEFORE USING THE SAMPLES ON THIS CD
Samples on this CD marked * are not licensed for commercial use. However, by purchasing the Zero-G products from which they are taken, the purchaser is automatically granted a license to use the samples commercially within a musical composition.

About the *Studio Series CD*

Every month, the *Studio Series CD* brings you a selection of top-quality samples that you can collect to build your own sample library. Each CD is themed, with one instrument/sound-type featured at a time, and using the colour coding system (right) you'll be able to locate samples quickly and easily.

MIDI files and synth sounds on the CD also follow the theme – this way you have instant production tools at your disposal. Need a drum track? Just go to the correct CD, load up the samples and corresponding MIDI files, and you're away...

BRASS/WOODWIND
VOCALS
DRUMS/PERCUSSION
ORCHESTRAL
FX/AMBIENT
SYNTHS/KEYS
GUITAR/BASS

SAMPLES

10 *Guitar Odyssey (Zero-G)

(i) Jazzy, Cminor, 90BPM
(ii) Funky, A, 100BPM
(iii) Bluesy lick, C, 110BPM
(iv) Wah Rhythm, Bflat, 120BPM
(v) Stereo Wah, Cminor, 120BPM

This Zero-G CD can be purchased from Time+Space, PO Box 4, Okehampton, Devon, EX20 2YL. Tel: 01837 841100 Fax: 01837 840080 Email: sales@timespace.com. See full review on page 70 of *The Mix*.

11 Frank Gambale Song Starters (Voice Crystal)

An abundence of jazz loops and chords, courtesy of this Aussie jazzer
(i) E Minor 7
(ii) E Major 7
(iii) E 9
(iv) E7#9
(v) E Minor 7 flat 5
(vi) E diminished
(vii) E 11
(viii) E 13
(ix) E min11
(x) E 7 flat 9

CD available from Sounds OK, 10 Frimley Grove Gardens, Frimley, Camberley, Surrey GU16 5JX Tel: 01276 682313 Fax: 01276 682717

12 Liquid Guitar (Voice Crystal)

Multiple styles provided by some of the finest guitarists in their field

(i) National Slide, riff, G, 103BPM
(ii) Electric Slide, riff, G, 103BPM
(iii) Electric Slide, riff, E, 116BPM
(iv) Pedal Steel chord, D
(v) Pedal Steel chord, A
(vi) Pedal Steel pattern, D
(vii) Electric Slide, rhythmic lick, D-C-A
(viii) Wah-Wah lick, C
(ix) Hawaiian Slide, dive to C

CD available from Sounds OK, 10 Frimley Grove Gardens, Frimley, Camberley, Surrey GU16 5JX Tel: 01276 682313 Fax: 01276 682717

13-22

Exclusive samples from the world famous Steve Levine Pro Series sample CDs – only in *The Mix*

Steve Levine Taylor acoustic
13. A selection of 9 chords
14. Harmonics from each string, then all together
15. Open strings and a few others

Steve Levine clean Strats
16. Assorted chords
17. Single notes

Steve Levine distorted Strat
18. Riffs, chords and notes

Steve Levine electric sitar
19. As the name suggests

Steve Levine Les Paul
20. A selection of dirty, gritty riffs and notes

Steve Levine mandolin
21. Open strings track
22. Mandolin chords

GUITAR FX

The following loops (recorded by Simon Young) have been pre-looped, and will loop seamlessly once truncated. Most are around the ten-second mark, but one or two are longer, so anyone with hard-disk recorders would be advised to load the samples there, rather than on a sampler, to create instant ambient backing tracks.

23 12/8 loops

(i) 12/8 loop, 75BPM, G(ii) 12/8 loop, 75BPM, E
(iii) 12/8 loop, 75BPM, E
(iv) 12/8 loop, 135BPM, C#
(v) 12/8 loop, 135BPM, C#
(vi) 12/8 loop, 135BPM, C#

24 Delayed loops 1

(i) Delayed loop, 83BPM, A
(ii) Delayed loop, 100BPM, D
(iii) Delayed loop, 89BPM, G
(iv) Delayed loop, 100BPM, A
(v) Delayed loop, 120BPM, A
(vi) Delayed loop, 120BPM, C#

25 Delayed loops 2

(i) Delayed loop, 120BPM, D
(ii) Delayed loop, 125BPM, G
(iii) Delayed loop, 133BPM, G#
(iv) Delayed loop, 133BPM, C#
(v) Delayed loop, 149BPM, G
(vi) Delayed loop, 150BPM, A

26 Guitar synth loops 1

(i) Guitar synth loop, 90BPM, A#
(ii) Guitar synth loop, 101BPM, A
(iii) Guitar synth loop, 101BPM, A
(iv) Guitar synth loop, 100BPM, D#
(v) Guitar synth loop, 101BPM, E
(vi) Guitar synth loop,101BPM, G

27 Guitar synth loops 2

(i) Guitar synth loop, 101BPM, B
(ii) Guitar synth loop, 101BPM, A
(iii) Guitar synth loop, 120BPM, G#

Thanks to Time+Space, Voice Crystal, Steve Levine, and Simon Young for their contributions to this CD

THE MIX STUDIO SERIES SAMPLE CD

TS VOL 5: Guitars

(iv) Guitar synth loop, 133BPM, G
(v) Guitar synth loop, 133BPM, A#
(vi) Guitar synth loop, 134BPM, A

28 Pitch shift FX loops
(i) Pitch shift loop, 80BPM, B
(ii) Pitch shift loop, 94BPM, D#
(iii) Pitch shift loop, 120BPM, F#
(iv) Pitch shift loop, 150BPM, D
(v) Pitch shift fx texture, A
(vi) Pitch shift fx texture, B
(vii) Pitch shift fx texture, F
(viii) Pitch shift fx texture, E
(ix) Pitch shift fx texture, E
(x) Pitch shift fx texture, F# (xi) Pitch shift fx texture, G#

TRACK 1 SOFTWARE

Every month we aim to bring you a great selection of music software: shareware, demos of music applications and fully-working programs you can use.

PC SECTION

hdx_demo
Three fully-functional effects from Arboretum's Hyperprism DX

Friends
Imaginary Friends – a Koan album with vocals for the AWE sound cards

.WAV samples
A collection of guitar sounds ready for you to use on your PC

ATARI SECTION

Egale
Binary editor to surgically alter header data on your samples

IFF samples
A collection of guitar samples ready to use on your Atari

MAC SECTION

free_mmp
Two free Adobe Premier-compatible plug-ins from those nice people at Arboretum.

More software! See page 10 for a full listing of all the programs on our mega special software CD.

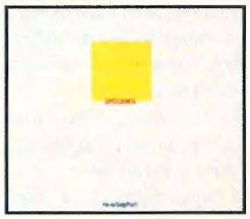
TRACKS 2-12 REGULARS

Commercial Track

2 Rob Playford/EZ Rollers: 'Tough At The Top'
(Timecode Remix)
Exclusive remix of this classic track

Demo of the Month

3 Reverbathon: 'Mush'
Electronica intertwined with jazzy elements, and some surprising quirks



Gear Demos

4 Paul Kodish 'Dangerous Drums' MIDI files
The man behind the Prodigy's 'Firestarter' and 'Breathe' can now be MIDI'd into your own tracks with results like these

5 Korg SG Rack piano module
Chris Kempster has a twiddle with Korg's latest offering

6-9 DIY TR-606 PROJECT
Follow the instructions on page 104, and your 606 should sound something like this... 6 Modified Low Tom, house style
7 Modified Bass Drum and Snare, drum&bass style
8 Modified Bass Drum and Snare, hip hop style
9 Swept Bass Drum and Snare with tuning

SOFTWARE BONANZA!

We said it was big, and we weren't joking! Over 500 programs for Mac, PC and Atari, including virtually every type of music application imaginable. So here it is – a complete listing of the contents on your free CD-ROM...

PC SOFTWARE

CD Rippers

atainfi3 Finds drive parameters, use to check digital audio capabilities of CD ROM drive.
cdcopy CD Copy V3.803 - write audio-tracks from CD to disk.
cdw9521Z CD Worx Version 2.21.0046 for Windows 95. Reads CD digital audio tracks and save them as Wave files.
Dido4. Digital In Digital Out. Audio CD data extraction.
readcda2. READCDA v2.0 CD-ROM audio data extraction, particularly for Panasonic (CR-562B, Creative Labs 2x) drives.
wdac133. Digital Audio Copy for Win32 V1.33.

Composition

alcompi1: Aleatoric Composer. Creates music using random and conditional probabilities.
anyspd: Any Speed version 1.1 for Windows 95, Windows NT 4.0 helps measure the real transfer speed between the Internet provider and your computer.
Artsng23. Art Song v2.3, a novel algorithmic music composition program.
Bbw7demo. Band-In-A-Box V7 Demo.
beatrock. Beat 2000. Create and mix your favourite music on your PC.
composa. Composa v1.06 generates songs by letting you specify various parameters for harmony, bass, melody, chords and rhythm sections.
Fmus10. Fractal Music, composes music based on fractals.
frctmus2. FractMus 2.0 creates Fractal/Algorithmic music using mathematical algorithms from chaotic dynamics, fractals, and number-theory.
impvz130. Improvise 1.3 composes algorithmic MIDI music in real time, on up to sixteen channels.
katorzer. KaTorZer v1.41 uses mathematical functions to generate music which is output via MIDI.
mandel. A collection of MIDI files composed with the aid of fractals.
master.exe. MAS - Music Analysis System.
melody. Melody Assistant is software for computer-assisted tune writing and composition.
midftz21. MidiFitz 2.1, a real-time MIDI accompaniment program.
motone.exe. Mostly Tonal, a music generation program.
Musiclab. MusicLab I v3 was developed to help you explore music composition using chaotic function attractors.
musinum2b5. MusiNum 2.0 beta 5 generates music from numbers.
prime. Aesthetics of the Prime Numbers Sequence by Nada Brahma. A .htm document explaining the methods used plus two MIDI files.
wtf30. The Well-Tempered Fractal v3.0.

Digital Audio

3daud11: 3D-Audio. Creates high quality 3D spatial audio.
Acmao11: Audio Compression Manager Add-On 1.1 converts audio data to other audio formats.
audiv3e: Quartz Audio PRO, mixing software.
awave44: Awave for Windows 95 or 98 or Windows NT 3.51, 4.0 or 5.0 or Windows 3.1 with Win32 1.3. Audio file format converter, an audio editor, an audio player, and, last but not least, as a wavetable synthesiser instrument format converter and editor.
cylxv104. The Cylonix Vocoder v1.04 implements a filter bank channel vocoder with 18 channels.
dithdemo. Dither demo. A collection of files which illustrate the effects of dithering.
djm210. DJ Master 98 is a digital audio player for Windows 95.
echoreporter.exe. Echo Reporter tests your hard disks for their ability to read and write digital audio data.
emastr100. EffectsMaster V1.0 adds effects like graphic equalizer, dynamic compression, non-linear distortion, filter modulation, envelope filter, chorus, reverb, delay to an audio signal.
epp10. Effects Processor Pro v1.0, a real-time audio effects processor for Win 95.
fx15. FX v1.5, a digital sound effects processor.
gwave324. GoldWave v3.04, a very well-featured sound editor, player, recorder, and converter for Windows.
melos. Melos analyses sound that you present to it using a microphone (voice or instrument) or by opening a monophonic WAV file. It immediately shows the information as musical score and you can save the notes as a MIDI file.
multq102. Multiquence is a multitrack digital audio processor with unique multimedia extensions.
ntrack20. N-Track v2, a powerful multitrack recorder.
pareq20. Parametric Equaliser Pro v2.0, a shareware real-time parametric equalizer for Win 95 or Win NT.
perfmchk. Steinberg's Cubasis Audio Performance Checker.
SAW32Demo_23.exe. SAW32 Demo v2.3. SAW is an acronym for Software Audio Workshop, the third generation of digital hard disk editing software.
sl21demo. Sound Laundry 2.1 is a real-time audio restoration tool, which allows you to

HOW TO USE THE CD-ROM

The contents of the CD-ROM are listed with the filename first, followed by a brief description. Most programs also have a ReadMe file attached. All programs are compressed, and we've included Stuffit Expander for expanding the Mac files, and WinZip for expanding the PC and Atari software. Any queries should be addressed to the software makers, rather than to *The Mix*.

"wash" your old vinyl (or even shellac) records and tape recordings in real time.

spikey. Contains a simple 8 bit WAV file which can be loaded into any sound sample editor to reveal something about the editor's accuracy (or lack thereof).

ssdem-e. Samplitude Studio v4.0 demo, a comprehensive digital multi-track recorder with many features, written in Native 32 bit code for use under Windows 95 and Windows NT.

Synctest. Sync test Program for Cubasis.

wavesurg. WaveSurgeon v2.0 automatically finds individual segments and loop points within a sample which makes it particularly suitable for drum samples, but it may be used to break apart anything (including vocals).

waveton. Wave To Note version 1.1. Calculates the pitch of a given WAV-file.

wavmaker16 and wavmaker32. 16-bit and 32-bit versions of WavMaker v3.2 for Windows. Converts a Standard MIDI file to Wave format.

wavsng24. WaveSong v2.4, a nature-sound generator program for Windows 95 or NT4.0.

Editors/Librarians

01wse32. 01/W SoundEditor 32.

AN1xEdit.exe. Definitive editor for Yamaha's AN1x synthesiser.

cm. CanvasMan is the Windows editor/librarian for Roland's Sound Canvas line of GS synthesisers (SC-55, SC-55mkII, SCC-1, SC-155, JV-30 and many others.

dw8000. Windows-based editor/librarian for the Korg DW-8000 synthesiser. It should also work with the rack-mount EX-8000.

epsln20b.exe. Epsilon is a remote wavesample editor for the Ensoniq EPS 16+ Digital Sampling Workstation, but it also works with the Ensoniq ASR-10.

esq1_syx. A collection of patches for the EQS1.

frl_100. FreeLoader 1.0, a shareware utility used to play sysex files, MIDIX files, and standard MIDI files into MIDI devices.

glib4. The Glib v4 archive includes a pre-compiled executable with support for the TX81Z, DW8000, and Microwave.

gr30e100. The GR-30 Editor for Roland's GR-30 guitar synthesiser.

gsp110. GS-Panel, an easy-to-use control panel for Roland GS compatible devices.

JunoEdit. Juno Editor For Windows 95/NT v 2.01.

ks32edit. KS editor 0.1a, a sysex-utility for the KS32

m3r211fu. M3RLibEd, a comprehensive application for the Korg M3R.

mc303. The MC-303 Controller for Windows controls a Roland MC-303 Groove Box through MIDI.

midiedit. MIDI EDITOR v1.2 - The Universal MIDI Device Manager - for Windows 3.x and Windows 95.

midlib02. Midi Sysex Librarian v0.1 beta, currently supports the Yamaha DX7, Kawai K1, Roland D110 and Ensoniq Mirage.

mxed1_03. MatrixEd patch editor for the Oberheim Matrix 1000.

noizedmo. NoiZe editors for Windows Demo Version D2.0.

P1_gmidi.mid. The Ultimate Proteus General Midi Bank, designed for a Proteus/1XR with the Invision Upgrade installed.

Polyphon. Polyphony v1.0, a configuration manager for the Proteus class products.

QSedit32. QS SoundEditor 32 for Alesis QS instruments.

Quad121. Quadraverb Patcher Version 1.21 to control the Alesis Quadraverb series and give easy access to their features.

Rich_p3.mid. Rich's Eclectic Collection - 64 for the Proteus/3.

Rich_vfx. A bank of sounds for the Ensoniq VFX.

richs_ws. An XoR Unisyn Bank for the Wavestation SR.

sbr_120. Alesis Sound Bridge v1.2, a Windows utility that compiles custom samples, program banks and sequences into the QuadraSynth Voice format, and downloads them to an Alesis-compatible PCMCIA Sound Card.

sdlib102. SoundLib v1.01, a synthesiser librarian for Windows with support for more than 17 synths.

SEInstall21f.exe. Sounds Exclusive v2.1 allows your computer to generate and manage messages that control the special features of your MIDI-compatible equipment.

Sprc. The SP Remote Control, a fully functional "virtual control panel" for the Peavey DPM-SP range of Sample Playback Synthesisers.

studio_drivers. Around 240 Cubase Studio Module drivers for instruments from over 30 companies.

sysex95. SysEx Manager 95 receives, saves, and sends out general System Exclusive messages and data.

trinitypcg11win95. Trinity PCG 1.1, a Windows 95 compatible librarian for the Korg Trinity.

vbsyx24f. VBSYX v2.4, a SYSEX Decoder for Roland/Yamaha instruments. It supports all Roland/Yamaha GS/XG modules and automatically converts GS SYSEX to XG.

vectorp2. The Vector Plus Orchestral Bank for the Proteus 2.

WaveSt32.. WaveStation SoundEditor 32 for the Korg WaveStation.

winsds. WinSDS, a MIDI sample-dump transfer program that runs under Windows.

winsysex. WinSysEx v2.0 lets you create dialog boxes that send system exclusive messages from your computer to a MIDI device or Window's clipboard.

WSEdit1c.exe. WSEdit v 1.c is a graphical editor for the Korg Wavestation.

Education

kn32v152. KeNote Music Drills for Windows 95 or Windows NT 3.51 offer musical drills for Clef Notes, Keyboard, and Guitar.

musbox01. The Music Box Demo Version 1.0, a Personal Ear Trainer for Windows.

mwdemo.exe. Musicware Piano, interactive piano-instruction system for use with personal computers.

wsmusdm.exe. Super Musicus v1.9 is a game designed to help students gain a better perspective of the relative length of notes.

MIDI Utilities

arnmpstd: Arnold's MIDI Player with Karaoke. Plays MIDI files and displays lyrics in karaoke MIDI files.

arpegg14: Software Arpeggiator.

hld. Hubi's LoopBack device Version 2.5, a virtual MIDI driver for Windows3x/95 to connect multiple MIDI-programs.

mf2t. MF2T and T2MF, reads a standard MIDI file and writes an ASCII representation of it and vice versa.

midifile. This archive contains a library of code to read and write standard MIDI files.

midijoy. Midijoy v1.003, an add-on for MultiMID which allows you to use the joystick to add MIDI controller information to a MIDI input device.

midilang. MidiLang v1.6, a real-time MIDI processor which processes MIDI events while you play.

midimon. MIDI Monitor Version 2.01 displays incoming MIDI streams, and passes the data to a MIDI output driver or the MIDI Mapper.

midiox. MIDI-OX 16 Version 3.00 displays incoming MIDI streams.

midithru. MIDI Thruway 2.0 allows you to connect a MIDI keyboard to your soundcard's MIDI synthesiser, without the use of a sequencer.

midixer. MidiXer, a utility program for handling MIDIX format files.

midiyoke. MIDI yoke v 15.2, a MIDI Patch Cable driver for Windows versions 3.1 through 95. It can connect any Windows MIDI application output to any other applications input.

mmid30. MultiMID v3.00 can add an overlay or layer on top of other MIDI drivers, making it possible to have up to 8 simultaneous connections to an underlying MIDI driver.

mwdiag. A MIDI diagnostic program by Music Works.

smc3dem1. SoftMC V3.0, designed for real time control and automation of effects processors, mixers, and other MIDI controlled devices.

swmiarp. Sweet MIDI Arpeggiator for Windows.

swmiharm. Sweet MIDI Harmonizer v 1.0 is a computer version of an intelligent harmonizer.

Mods/Trackers

book011a. The trackers Handbook. Everything you ever wanted to know about Trackers but where afraid to ask.

digitr32. Digitracker v3.2. The latest version of one of the original tracker-type programs. DOS-based but it runs under Win95. A load of features.

ft208. FastTracker v2.08. Another tracker of the old-school, DOS-based but it runs in a shell. Lots of features.

it214. Impulse Tracker v2.14 supports 64 channels, and can load and play many file formats.

itawe32. Impulse Tracker advanced sound driver for the AWE 32 card.

mikit10b2. MIDI Kit, jukebox-type player for XM, MOD, S3M, IT and PLT files. No MIDI support.

mpt100a6. ModPlug Tracker v1.00 alpha 6, a genuine tracker and player for Windows 95. Supports the main tracker file formats modus operandi - and all from a windows interface.

Mwaves. Making Waves Demo. A Mod-like sequencer.

rippr500. Extracts audio files from software.
rt223. Sound tracker which can also control external MIDI devices.
wav2xi12. WAV_2_XI v1.2, an 8/16 bit WAV to XI converter.

MPEG Movies

maplay1a. Software-only MPEG audio player.
winamp173. MPEG Audio player for Windows 95

Notation

mozart31. Music Processor for Windows.
net_mw2.exe. A scoring, recording, editing prog.

Players

Cdspro33. CD/Spectrum Pro. CD-Audio player with built-in graphical spectrum analyzer.
midimm31. MIDI Made Music for Windows, a full featured jukebox player.
midip155. MidiPlus 1.55 A CD-player-like interface - supports MIDI, WAV and AVI.
muscdpl. The Musician's CD Player! Can slow down CD audio at rates from 20% to 200%.
Musicbar. Jukebox on the Windows task bar.
scrndnc2. ScreenDance. CD player that produces animations in response to the music.
supsonic. Supersonic Pro v 2.0, a Rack-Mount Sound System with lots of hi fi tools.
wink-c11. WinKaraoke Creator 1.1, a MIDI Karaoke file editor.
wink-p10. WinKaraoke Player 1.0. a MIDI Karaoke player for Windows 95.

Plug-ins

FX32DitherDemo.exe. Plug-in module Demo for SAW Plus 32 v1.9 or SAW 32 v1.9.
h_dx_demo. Hyperprism-DX DEMO 1.0. Three fully-working DirectX plug-ins from Arboretum's Hyperprism plug-in software .
Nophones. NoPhones v1.00 plug-in for Cubase VST v1.00 - counteracts the headphones stereo.
PremAmbiDemo.exe. The Ambience Extractor plug-in for Adobe Premier v4.2 Four tools: Maxx Stereo, Ambience Extractor, Mono To Stereo, and Centre Channel Remover.
Pipdemo. Demos for VST from Object Productions. Before using you must install the normal Vintage Power Pak Demo.
TXmitter. Trancemitter plug-in by Steinberg for Cubase VST. Modelled on a hardware analogue control panel.
Vppdemo. Vintage Power Pack Demo plug-ins for VST by Object Productions.

Sequencers

chordplw. Chordplay. Enter harmonies and playback over the top.
Cm32uv. Chord Manager 32 (Windows 95 / NT).
drumwiz.exe. Pattern-based music composing.
jz32v30r. JAZZ++ A full MIDI sequencer.
mstud41. MIDI Studio is a Windows 3.1 based MIDI player/sequencer based around the stave.
music_draw. Music Draw 3.2 Lets you make harmonic music by only allowing you to enter notes that sound good.
powdemo.exe. Power Chords Pro v2.0.07c, a unique object oriented approach to music.
Powturbo. Example files that accompany a Power Chords Pro Turbo Tips article.
rave. MIDI Sequencer for people who are laying down tracks for acid / techno.
rbzpdemo. Rhythm Brainz Plus demo, a real-time pattern-based sequencer.
Reborn. Base Reborn v1.5 is the all new Rebirth mixermap for Cubase PC.
s16wshar. Sweet Sixteen, A sequencer.
seq303.exe. Seq-303 v2.0, an analogue sequencer emulator for Windows 95 and Windows NT 4.0.
tbox2b15. tekknoBOX is the first MIDI sequencer designed for dance music
V909v03. The Virtual 909 v3 is a software sequencer designed to emulate the Roland TR-909. Like a real 909.
winjammr. WinJammer Version 2.10, a fully featured MIDI sequencer for Windows 3.x.

Soundcard Tools

Awedm090. AWE Dumper 0.9 lets you save to disk the ROM of AWE32 card.
Awemid06: AWE MIDI Player.
awet1g4: AWETOY can change sound font banks and set and preview instruments.
fmsynth. FM Midi Synth driver Version 2.14 is a replacement driver for FM sound cards.
guspm10. GUS Patch Manager for users of Gravis Ultrasound cards.
wbman411. The Wave Blaster Manipulator demo version 4.11 for the Waveblaster card.

System

vb40016. Visual Basic 4.0 16-bit DLL files setup. Required in order to run some programs.

Virtual Synths

Ac30.exe: Audio Compositor. Software for realising standard MIDI files as digital audio.
axs200d. AXS - Another eXperimental Synth - upporting up to 16 different 'channels'.
GenDemo12_Install_eng. Demo of Native Instruments' Generator, a software-based modular synthesiser.
GenDemoLibrary.exe. A Library of instruments, modules and ensmbles for the Generator program.
GrannyBeta4. GranuLab creates sound using granular synthesis.
RBmodkit-full. ReNovator is a tool to create new exciting "mods" (modifications) of ReBirth 338.
rdh3o102. Rubber Duck H3O+, a realtime virtual analogue bassline synthesiser.
smorph30. SMoRPhi is a software synthesiser, designed to create samples for use in other programs.
synthia. Synthia v3.30, a "patch chord" synth with a set of eight oscillators at one end, a mixer at the other.
trx-or11. Orangator 1.1 for Win95 is a powerful virtual analogue synthesiser.
vr_demo. AudioSim v 1.91, a virtual analogue synthesiser running under DOS but which also runs under Windows 95.
vssdk11. The Virtual Sampler Library.
vwaves2e.exe. Virtual Waves v2.1 demo, lets you create synthesisers by connecting modules together in an intuitive and ergonomic fashion.

MAC SOFTWARE

CD Cataloguers

AudioLog 1.1.sit. A powerful database tool for music collectors.
Cassette Labeler 2.0.sit. A HyperCard util for creating cassette labels.
CD Labeler 2.0.sit. A HyperCard util for creating CD labels.
CD-Namer 2.0.5.sit. CD Namer lets you edit the entries of your audio CDs created by Apple CD-Audio.
CD-Square.sit. An audio CD Player.

Composition

Atonal Analysis.sit. An Excel 4.0 template to eliminate the drudgery of analysing atonal and serial music.
Band-In-A-Box™.sit. The perennial favourite accompaniment generation program.
Boink.sit. A MIDI arpeggiator for OMS.
bol-processor-274-appl.sit. Bol Processor 2.7.4, This is for composition/improvisation using MIDI, QuickTime MIDI and Csound environments.
CubicOscExplorer0.51.sit. Interactive exploration of the chaotic processes of the Cubic Oscillator,
FibonacciBlues.max.sit. A stand-alone click-and-play program that plays bluesy, aleatoric, algorithmic music
Harmonizer162.sit. Takes a melody from a MIDI file and writes four-part harmonisations for it.
LickBuilder.sit. Quickly 4 chord permutations.
Logistic Synth 0.2.sit. A real-time chaotic sound generator.
LoShuMusic.sit. An algorithmic music generator.
Matrix maker 3.0 folder.sit. Creation of twelve-tone matrices.
minds-ear-1.1.1.sit. Chord finder for MIDI keyboard and a composing tool for songwriters.
musical-set-complete demo.sit. Program demo for generating avant garde music.
Oblique Strategies.sit. Brian Eno's strategies for musicians.
RandMusicMach.sit. Generates music...randomly.
Thonk 1.0.sit. Produces diverse sounds based upon a sound file provided by the user!

Digital Audio

agent_audio-68k.sit. Agent Audio lets you view and play sounds embedded within programs.
agent_audio-PPC.sit. Agent Audio for PowerPC.
Amadeus-114e.sit. Generate & analyse sounds.
AnnaLies3.2.sit. AnnaLies is a spectrum analysis program for Sound Designer II files.
Argeïphontes Lyre v1.004.sit. Off-the-wall sound manipulation, generation.
ASIO Apple DAV VST 3.02.sit. ASIO driver to fix problems with VST and the built-in output of some PowerMacs and clones.
CD Equalizer+Karaoke 3.1 ....sit. Records sounds and runs them through a 27-band EQ before playing them.
ConvertMachine 1.2 ƒ.sit. Converts between a range of sound formats.
D-SoundPRO 3.1.2.sit. A sound editor with AIFF, SDII and Wave files plus sample dumps.

Digital Equalizer PPC 2.0 ƒ.sit. Records from the internal CD ROM drive, filters it and plays it back.
DigiTrack.sit. Reads a file of sound resources and lets you play them from the Mac's keyboard.
DSM Player 1.0.sit. Digital Sound Machine plays multi-format sounds.
Hit Factory VST 3.3 - DEMO.sit. Hit Factory VST 3.3, for the creation of modern techno, trance, house and dance music. Includes a sampler, synthesiser, beat box, recorder and editor.
Kong Filter 0.6.sit. KongFilter, a real-time dynamic filter program for the PowerMac which allows you to create poles and zeros on the complex plane (or z-plane) and move them with the mouse or via MIDI messages. You can check its impulse and frequency response and hear the filtered sound in real-time.
Lemur Pro 4.01.sit. A sinusoidal analysis and synthesis program which analyses AIFF files and uses them to synthesise AIFF files.
Mac2Win 2.0.0.sit. Convert Mac sound to Windows' .WAV format and back into Mac sounds.
MacAssist.sit. Lets you select and queue sound files to be played, suitable for DJs and broadcasting.
MQT 1.3.sit. MacAulay Quatierei Transformer, sound file analyser.
OutOfPhase 1.2.sit. System to edit and play electronic music, build waveforms, edit samples, construct instruments, create scores, and so on.
Phonograme.sit. Creates sounds from pictures directly via MIDI or indirectly via AIFF files.
PowerSynthesiser0.87.sit. Libraries for programmers for designing sounds.
QuickMQ.sit. A software tool fir the modification of time-varying spectrum analysis files.
Reverb v5.3 dist.sit. An application for designing reverb effects for Audiomedia, Sound Accelerator and Pro Tools DSP systems.
RossTools0.1alpha.sit. A sound processor for the PowerMac allowing users to process sound arriving at the audio input or from a file.
Scan for Sounds.sit. Searches and plays snd resources.
SFX Machine Presets. Two collections of presets for Bias' SFX machine.
SND Converter Pro 2.2.sit. Convert between sound formats and downsample sounds.
SndCataloguer 1.5.sit. Sound Cataloguer catalogues sounds wherever they may be stored. It collects information including sound name, size, format, suitcase name, folder and disk name which is written to a text file.
SndSampler3.5.1.sit. Application for recordings, editing and working with Mac sound. Includes processing, effects and a tone generator.
SoftClip.sit. A disk-based digital audio processor to add non-linear distortion to files to "warm up" music tracks.
sonicWORX® Artist Basic PPC.sit. SonicWORX Artist Basic from Prosoniq. Sample editor with 12 DSP effects including vocoder, ring modulator, sample rate conversion, parametric EQ and time/pitch scaling.
Sound Sculptor II 2.3.1.sit. A commercial-quality sound editor with overdubbing capabilities. It can play 8 tracks of stereo and has built-in EQ and effects.
SoundApp243.sit. Plays and converts files from a number of computer platforms and in different formats.
SoundHack.sit. Digital sound processing. includes spectral extraction, mutation and dynamics; convolution; varispeed and binaural processing.
SoundMachine2.7.1.sit. A user-friendly sound file player for common audio formats.
SoundMaster 1.8.4.sit. A Control Panel which makes your Mac play sounds when certain events happen.
SoundMorph1.12.sit. Morphs two sets of sounds through microscopic interpolation of their harmonic content.
SoundTweak0.1.sit. Compression, reverb and phase inversion for SD II files.
SoundVision D51 R2.sit. SoundVision shows the waveform and spectrum of sounds in real-time on most Macs.
Stomp Box Delay.sit. A real-time delay effect.
Stomp Box Tremelo.sit. A real-time tremolo effect.
The Musician 2.3.0.sit. Plays snd resources from files. It can scan a hard disk and play sounds in the background.
TrackPac-Lite.sit. A batch utility for compressing audio files using loss-less compression to ensure no data loss. Lite version limited to files less than 2Mb.
Ultra Recorder 2.3.sit. Plays and converts sounds in a variety of formats.
vsamp-201.sit. VSamp turns the Mac into an OMS and Sound manager compatible multi-timbral sample playback module. Configured like a simple sampler, VSamp can play up to 16 MIDI channels with up to 32 samples per channel.
WaveWindow 2.7.sit. A software oscilloscope.
ya sound recorder 2.0.sit. Yet Another Sound Recorder.

Editors/Librarians

4OP Librarian 1.0.3.sit. For Yamaha 4-Operator FM synths.
4OP Patch Files.sit. Patches for 4-Op synths.
Alesis Nano Modules for Logic.sit. Alesis Nano Bass, Nano Piano and Nano Synth Environment Modules for Logic.
AN1x folder containing AN1x Editor 1.02b.sit, AN1x Extra Voices.sit, and An1x Guide F/E.sit. An essential collection of programs and utilities for anyone with a Yamaha AN1x synth.
CS1x "Blue Book".sit. The Blue Book text and tutorials for the CS1x.
CS1x Editor.sit. An editor for Yamaha's CS1x which offers complete control over all performances.
CZ Librarian 3.0.sit. For Casio's CZ synths.
DR4d controller 0.9.sit. Remote control for Akai's DR4d hard disk recorder.
DR5Tool.sit. A utility for working with the Roland/Boss DR-5 Dr. Rhythm unit.
DX7 Librarian 1.2.0.sit. For Yamaha's DX7.
Ensoniq ESQ-1.sit. Q-Lib reads and writes Bank and Sequencer files in Ensoniq's standard format.
ESQ-ORG 1.3.sit. Patch organiser for the Ensoniq ESQ1.
FB-01 Edit 1.01.sit. Editor/Librarian for Yamaha's FB-01.
Free Loader 1.0.sit. Load and play MIDIfiles.
JUNO Librarian 1.1.7.sit. For Roland's Juno
K1 Librarian 1.1.1.sit. Librarian for Kawai's K1.
K1 V1.08.sit. Another K1 Librarian.
K5 Librarian 2.1.sit. K5 Librarian.
Kawai K4 Librarian 1.0.4.sit. K4 Librarian.
Korg T1/3MultiMaker 1.0.sit. For constructing Multis with a Korg T1/T3.
KorgX3 Editor 0.0.6.sit. Korg X3 editor.
M1 Librarian 1.0d2.sit. Librarian for Korg M1.
Mesa II Installer. Akai sample editor.
MicroWave.sit. Editor for the Waldorf MicroWave
MIDI Control 1.0.sit. Lets you create standard Mac controls and assign to any MIDI message.
MIDI Museum 1.10.sit. Application for sending MIDI messages. Includes protocols for DX7, MT-32 and TR-707 and a generic protocol.
Mirage File Transfer.sit. For transferring sounds from an Ensoniq Mirage to the Mac via MIDI.
MT-32 Sounds.sit. Sounds for Roland's MT-32.
MT32 Editor Prg.sit. Editor for Roland's MT-32.
oms-sysex-sender-11-68k.sit. Send and receive SysEx messages under OMS. A pop-up menu selection of the device from your OMS setup.
oms-sysex-sender-11-ppc.sit. For the PPC.
Patch Librarian TX81Z.sit. A full-featured librarian for Yamaha's TX81Z.
QY70.sit. Utility for Yamaha's QY-70 Data Filer.
SC-155.sit. A graphic editor for the Roland SC-55 Sound Canvas,
SC-50 Ctrl.sit. Controller for the Roland SC-50.
SendBank 4OP.sit. Sends bulk dumps from older Yamaha 4-Op synths to the YS series.
SoundBridge210 for QS.sit. Compiles custom samples, program banks and sequences into QuadraSynth Voice format and downloads them into an Alesis-compatible PCMCIA sound car.
Super Librarian Demo 1.02.sit. Universal patch librarian. Demo doesn't save setups or data.
SY77 Library 1.0.sit. For the Yamaha SY77.
SY77 Voice Librarian.sit. Voice Extractor
trinitypcg1Ofc1macdemo.sit. PowerMac librarian for the Korg Trinity series of synths.
VL70-m. Essential programs for VL70-m owners - Expert Editor, Analog Editor, Visual Editor.
WS Cat 1.0.1.sit. Cataloguer/librarian for Korg Wavestation instruments.
X5/05 SoundEditor.sit. Editor for X5, 01R/W.
XG Maps.sit. Loads of Cubase Mixer Maps for XG instruments, plus MIDI files to test them.
XGeditMAC.sit. Editor for XG instruments.

Guitars

ChordCombat.sit A chord dictionary for guitarists containing over 6000 chords plus

fingering information, chord theory and a chord builder.
ChordCompanion 2.0.sit. Easy-to-use chord analysis software for guitarists. 68K and PPC versions included.
ChordLab 1.6.sit. If you've ever wondered how to spell a C#maj7/#11, ChordLab is for you. It will also help with ear training and explain how to finger certain chords on your guitar.
Classical Guitar Sampler.sit. A SimpleCard stack of classical guitar melodies.
FretNavigator1.2.sit. Finds chords, scales, intervals and chord progressions on any stringed instrument. Plays via MIDI.
FretPet 1.0.1.sit. FretPet is a guitar-oriented sequencer which allows you to build chords from scales, generate chord harmonies and create and save chord progressions.
Guitar Tuner 2.6.sit. An electronic, Mac-based guitar tuner.

MIDI Utilities

AllMIDI.sit. A drag-and-drop program for converting MIDI files into QuickTime movies.
amp-68k-2.9b9.sit. Arnold's MIDI Player, comprehensive MIDI file player.
Chroma Folder.sit. Displays MIDI notes in real-time and lets you play an on-screen keyboard with the mouse.
Club MID v1.0.5 Folder.sit. A player for Standard MIDI Files with lots of information.
D110 Rhythm.sit. Rhythm ed' for Roland D110.
Flex Processor 1.2.sit. Instead of producing sounds, it produces musical gestures
Flex Processor 1.3.sit. Demo with 10 launches.
General MIDI!.sit. On-screen info about GM
MacBPM.sit. An interactive bpm counter
Megalomania1.2.3.sit. Design a wide range of MIDI effects using icons and a virtual patch chords.
Metronome 68k.sit. A metronome.
Midi Delay 2.5.1 Demo.sit. MIDI delays.
Midi It! 1.2.7.sit. Changes file types to "MIDI"
MIDI Peek 1.00.sit. View MIDI commands being sent in real-time – can capture a MIDI dump.
Midi Thru 1.6.sit. Connects controlling synth to a slave without having to load your sequencer.
MIDIFile Converter 1.0.1.sit. Change the file Creator of a file so it will load into your favourite sequencer when double-clicked.
MidiKit 2.5 FAT.sit. Quickly modify the file type, creator, copy tempo to track 0, convert file types 0 and 1, and more.
miditester-2.0.sit. Transmits data on all MIDI channels allowing you to check your MIDI setup.
RealTime Tuner.sit. An interactive microtuning program, and suite of microtuning facilities.
v-mix.sit. A full-featured mix automation program
Velocity 1.0.3.sit. Change the velocity of incoming MIDI note messages.
XG Viewer 2.20.sit. XG format's MIDI data.

Mods

MacMod Pro 5.01.sit. A complete graphic program for composing and playing Mods
ModPlayer 2.12.sit. A nicely-graphic Mod player.
PlayerPRO 4.5.9 (FAT).sit. Track program.
PlayerPRO's Music II.sit. Files for PlayerPRO.
ZSS Player.sit. A Mod player.

Notation

ART Music 3.2.1c.sit. Converts Finale 3.2 EPS files and Finale Allegro files.
BitMapMusic 1.4.sit. A notation program suitable for short scores.
Nightingale Demo.sit. Demo of a powerful notation an scoring program.
NoteScanDemo104.sit. Scans printed music and converts it into a MIDI score.
NoteView 2.2a.sit. A view-only and listen-only version of Nightingale.

Plug-Ins

CyberSound™ FX Demo.sit. Adobe Premier-compatible audio plug-ins.
davesplugins_V100.sit. Fully-functional - and free! - Cubase VST plug-ins.
DelayMac.sit. Tempo Delay and Sweep Delay, two fully-functional plug-ins for Cubase VST.
GrooveDelay for VST.sit. NeuroSonic Groove Delay plug-in Demo for VST.
Hyperprism Free Plug-ins.sit. Echo and Low Pass Filter, two free and fully-working Adobe Premier-compatible plug-ins.
PanHandler1.1.sit. A surround sound panning and encoding plug-in for Adobe Premier.
Vintage Power Pack demo.sit. Six plug-ins for VST.

QuickTime/MPEG/Video

Boris Effects Demo.sit. Digital special effects generator for Adobe Premier and Media 100.
Karaoke Jukebox.sit. A HyperCard stack for managing and playing QuickTime Karaoke file.
MacAmp.sit. Macintosh Audio MPEG Player.
Maction MPEG Audio Player.sit. A Player interface for the MPEG features of QuickTime.
MPecker Drop Decoder 1.0.1.sit. Converts MPEG1 or MPEG2 Layers 1, 2 or 3 files to AIFF
Spike Folder Spike is a batch movie analyser that determines the playability of QuickTime files from specific media such as CD ROM.
Virtual Drummer 3.1.sit. A QuickTime-based drum machine.
µZak 1.6.sit. A utility for playing the sound tracks of QuickTime movies.

Sequencing

Anthem 1.07.sit. Combines notation, sequencing and patch librarian functions.
BeyondDemoV23.sit. Mac Sequencer
MIDIGraphy1.2.5.sit. MIDIGraphy, a multi-track MIDI sequencer - uses the MIDI File Format.
MIDIGraphyProfiler.sit. Enables you to make sound device profiles for MIDIGraphy
trackstar-3.0.sit. An interactive interface for playing pre-recorded Standard MIDI Files.

Virtual Synths

GrainWave PPC. Real-time software synthesis.
LiSa 1.1 Demo.sit. A real-time audio manipulation environment for the PowerPC.
LogicSim PowerPC (3.0.1 alpha).sit. Logic Simulator. for the PowerPC.
Syd 1.0.6.sit. An instrument editor and software synthesiser with synthesis "modules'.
TurboSynthDemo.sit. Digidesign's original software synthesiser
Unison.sit. A Software synthesiser that works with a Sound Accelerator or AudioMedia card.

ATARI SOFTWARE

Falcon only files are lited at the end of this software section

Composition

MIDI Arpeggiator v2.11: A demo version of a mini-MIDI sequencer for all Ataris. Features two 16-step tracks, multiple play modes, and compositional tools.
Freestyl: A demo version of an interesting auto-arranger program for all Ataris. Create auto-accompaniments in various styles and play them back via MIDI.
Top Chords: A demo version of another pattern, or auto-accompaniment-type MIDI arranger for all Ataris.

Digital Audio

525 v2.13: An indispensable shareware sample format convertor for all Ataris. Converts between most popular formats including AIFF, AVR, WAV, SND, HSN (Crazy Sounds), DVSM, SD I, and most raw data. Also features sample rate conversion.
Crazy Sounds: A huge selection of samples in *.HSN format and a demo version of utility for playing them. All Ataris.
PHDMA Player: Play back a range of sample formats (AIFF/AU/AVR/SND/WAV) using this command-line application. Simply drop the sample icon onto the program to play it. Requires an STE/TT or Falcon.
SamEdit: A beta release of a very promising shareware sample editor. Samples: A collection of sounds in *.AVR format from the Electronic Cow sample library. Includes some analogue and digital synths, plus a helping of sounds created using Snippit Synth.
Samplayer v0.6: A freeware *.AVR sample player for all Ataris. Samplayer can load any *.AVR sample (mono/stereo), and play it back using the STE's DMA sound (not STFM compatible). Also features MIDI sample dump.
Wibbly Wave v0.54: A freeware sample waveform generator for all Ataris. Choose from a range of DCOs and preset envelope shapes, and create 16-bit *.AVR samples to use in tracker programs and so on.
Zero-X v1.92: Demo version of a sample editor for all Ataris. Zero-X features plenty of sample editing tools, MIDI sample dumping, and a beat-split mode that carves a sound into unique drum sounds (just like Recycle!). Samples cannot be saved or dumped via MIDI in this demo version.

Editors/Librarians

Bank M1: A freeware utility for the Korg M1 for all Ataris (runs in ST high). Load and save voice bank/combi and global data to and from disk on the Atari. Also runs as a desktop accessory.

Sequencing

DBE Tracker v1.07: A shareware thirty-two voice tracker program for Ataris with DMA sound capabilities (not STFM). Registered version has even more features, but this version is fully working, with sequencer, effects, and a sample editor.

Groove: Simulate old analogue sequencers with this MIDI program for the ST (not Falcon compatible).

MIDI 2 Sequencer: A fully working MIDI-based song generator for all Ataris (in ST high). There are plenty of editing functions, including a drum grid, score page, arrange page, and chord/note edit pages.

Trackman: A fully-working, once commercial but now completely free, MIDI sequencer. Trackman works on all Ataris, and has a list of features that you'd expect in a commercial MIDI sequencer: drum edit, pattern sequencing, and MIDI file export. A utility is also provided to convert SMFs to SEQ files.

SND Play: A small application for playing ST sound chip generated music files. A collection of tunes are included for you to enjoy or grimace at. All Ataris.

Miscellaneous

Desktracker v1.22: An accessory for playing Protracker-compatible *.MOD files. Plenty of features, including background playback, and up to 50KHz sampling rate. Not STFM compatible.

MIDI Utilities

GoZone: A MIDI mapping utility for all Ataris. Features include the ability to load and save user maps, and real-time MIDI performance control.

MIDI Mix: A shareware user-programmable MIDI mixer utility for all Ataris. MIDI Mix runs as an accessory and features sixteen sliders which can be assigned to any MIDI controller. MIDI Monitor v0.84: Analyse all your incoming MIDI data (much like the hardware MA36) with this freeware MIDI monitoring accessory for all Ataris.

MIDI Tool: A simple little freeware tool for calculating delay times from tempo. The program runs on all Ataris and also features a built-in keyboard for external MIDI triggering.

MMPI Demo: A quite unique MIDI performance tool for all Ataris, Microtonal MIDI Performance Instrument can be used to set-up your synth to play in other scales other than equal temperament.

SMF Player: A shareware standard MIDI file player for all Ataris. Plays back both type 0 and 1 MIDI files, and has a range of features too.

Virtual Synths

Mad Max: A sound chip music player for all Ataris. Needs to be run in an ST-compatible resolution on the Falcon.

Sound Chip Synth v3.0: Demo version of an analogue-style sound chip synthesizer for all Ataris. There are many synthesis features, including LFO, amplitude modulation, oscillator tuning, and envelope shaping. The demo version has no sample export or MIDI control, but is otherwise fully useable.

Snippit Synth v1.2: A demo version of a granular synthesizer for all Ataris (requires an STE/TT or Falcon for playback). Create sounds at the base level by adding bits of waveform together using various algorithms. The demo version removes some features, including no MIDI sample dumping, or sample export.

Utilities

Big Dump: A freeware utility for all Ataris which stores and retrieves system exclusive (generic) up to a megabyte in size.

Utracker: Another of those *.MOD playing utilities for the STE/TT and Falcon. Runs as a desktop accessory.

Bandname: A particularly odd application, but equally useful if you can't think of a name for your band. Run it, and marvel at the names it comes up with.

HDX/Hinstall: Atari's own hard disk driver, formatter, and utilities. If you have a hard drive, then you'll probably be using these already (either that or one of the commercial alternatives), but nonetheless, these are invaluable.

LZH: A set of tools, including a very tasteful GEM shell, for packing and unpacking data using the LZH compression format. ST Guide: The standard on-line help system for the Atari. ST Guide runs as a desktop accessory and works much in the same way as Windows' help system. Most shareware and now a lot of commercial software support this format for on-line help.

XControl: Atari's own extended control panel accessory, plus a selection of third-party CPX modules to use with it. XControl allows you to configure all-manner of things on your Atari, from system colours, to sound set-ups.

ZControl: The shareware alternative to XControl, ZControl allows you to open lots of CPX modules at once, amongst other improvements.

ZIP: Another set of archiving tools, this time for the ZIP compression format. This is also widely used on the internet, and also has the advantage of being cross-platform compatible with the Macintosh and PC .

Falcon-only folder

Audio Master v1.7: Demo version of a two-track hard-disk mastering program. Designed to be used in conjunction with CD Recorder for mastering your audio tracks. Audio Tracker update: Version 1.66 of Audio Tracker, the eight-track linear hard disk recording program. This is an update patch for existing users, and requires the other files and copy protection cartridge to run.

CD Reader: A shareware utility that enables you to play audio tracks from a CD-ROM drive via the DSP. It will also allow you to transfer audio tracks via SCSI and save them as samples (requires a compatible CD-ROM drive, like the Apple CD300e).

CD Recorder v2.02: Demo version of CD Recorder. Get a taster of how easy it is to compile an audio CD, CD-ROM, and even mixed-mode CDs.

Digital Home Studio: Demo version of an all-in-one studio program. DHS features MIDI and sample sequencing, a sample editor and synthesizer with many built-in effects, and HDR capabilities.

MID Play: Play standard MIDI files on the Falcon without having to have a GM sound module. All the sounds are played from the Falcon itself!

Studio Son: A fully-working two-track hard disk recorder and sample editor. Studio Son also features real-time DSP effects, plenty of editing tools, and MIDI control.

Voxx: A demo version of a shareware DSP vocoder. Voxx works using the Falcon's analogue inputs. There are lots of parameters to tweak, and ten different presets to try out.

Wave030: A Windows WAVE player for the Falcon. And nothing else.

outstanding dynamics. outstanding price.

The new Green 6 Quad Compressor/Limiter is the most affordable and versatile dynamics module by Focusrite ever. Four channels of legendary Focusrite compression and limiting have been combined into one box at an outstanding price. No compromise in quality has been made, however. The Green 6 shares the same Class A audio VCA technology as the TEC Award winning Red 3, giving warm, low distortion, dynamic control. Ultra fast limiting is also included for safe digital recording or maximum level control when connected to a PA system. Stereo linking between all channels is provided to allow accurate multi channel compression – especially important for surround mixing. U.K. List Price: £849 +VAT

Focusrite GREEN RANGE

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LATEST...LATEST...LATEST...

NAMM '98 SHOW

Chris Kempster brings you news of all the latest gear launched at the recent NAMM Show in Los Angeles...

While the infamous El Nino was raging up and down Santa Monica beach and drenching the usually sunny City of Angels, a whole bunch of new audio products were creating their own storm inside the LA Convention Centre. Over the last few years, NAMM has increasingly been used for new product launches and this year was no exception, with a serious amount of new gear on show. Which is a good job, since I've got the next four pages to fill!

Aliens have landed!: the LA Convention Centre

In the digital mix

It was appropriate that the very first product launch we attended was the Spirit 328 digital mixer, as featured exclusively in *The Mix* last month. Appropriate, because digital mixing was a major theme at the show, indicative of what may well be a recurring theme during 1998. Spirit's 328 has been in development for several years now, and wisely, they chose to unveil it virtually at a time when they can also put it in the shops – a move sure to be welcomed by punters fed up of waiting for 'vapourware'. The 328's claim is that it's much more user-friendly than menu-driven digital mixers like the Yamaha range and ...well, almost every other digital mixer so far produced. With that in mind, the Spirit designers have come up with some novel features such as the 'E-Strip' which puts a conventional mixer channel strip across the 328. This allows the EQ, aux's and panning of each channel to be altered without looking at the 328's LCD – all recallable at the touch of a button, of course. It certainly looks the business, and with two ADAT and Tascam T-DIF digital interfaces included in its £3,523 pricetag, the 328 will be very competitive.

Speaking of Yamaha, the digital mixing pioneers had a few aces of their own to play in this increasingly high-stakes poker game. The successful 02R console has received a makeover of its system software, with Version 2 offering such refinements as Surround Pan (its post pro success showing here), 24-bit Recording mode, enhanced off-line editing of automation, and improved MIDI control. At the other end of the scale is the new 01/V console which improves on the original Promix 01, still one of the most affordable desks on the market. The major criticism of the 01 was its lack of digital interfacing, and the 01/V remedies this with eight digital inputs and optional cards to connect to your choice in recorders (Tascam, ADAT, AES/EBU) just like its bigger brothers. The 01/V improves on its predecessor in almost all areas, and the good news is that it'll sell with a price tag under £1,700.

Yummy! But we're not finished with Yamaha yet, oh no. Reflecting the fact that everyone and their dog is sticking their products on a card to fit in your computer, Yamaha have ground an 02R down and fitted it on a piece of PCB. The DS2416 Digital Mixing Card is the star component of the new Yamaha DSP Factory, and is touted as 'a complete digital recording and mixing system inside your computer'. Given the fact that many digital mixers use either a LCD screen or a computer monitor to display their main parameters, it takes only a small leap of the imagination to get rid of the hardware mixer itself and just have a box of inputs and outputs linked up to the software front-end. It's a sound idea, and Yamaha have got there first with the card that puts 'the processing power of an 02R

Panasonic Ramsa DA7

Spirit 328 in action

on a computer card for less than 1000 bucks'. In English this translates into around £700, which makes it a very attractive prospect.

Panasonic are well-known in studios for their pro DAT machines, but another product badged with the Panasonic Ramsa trademark was causing lots of interest at NAMM. The DA7 doesn't look a million miles away from Yamah's 02R, but inside this digital mixer there's plenty to dispel talk of similarities. Take its audio performance for a start. With 32-bit processing and 24-bit A/D and D/A converters, the DA7 gives a dynamic range of 110dB – which is pretty good, by the way. The DA7 is also notable for its natty software front-end (Mac and Windows) though whether we'll ever see it in the UK is not clear yet. Let's hope so.

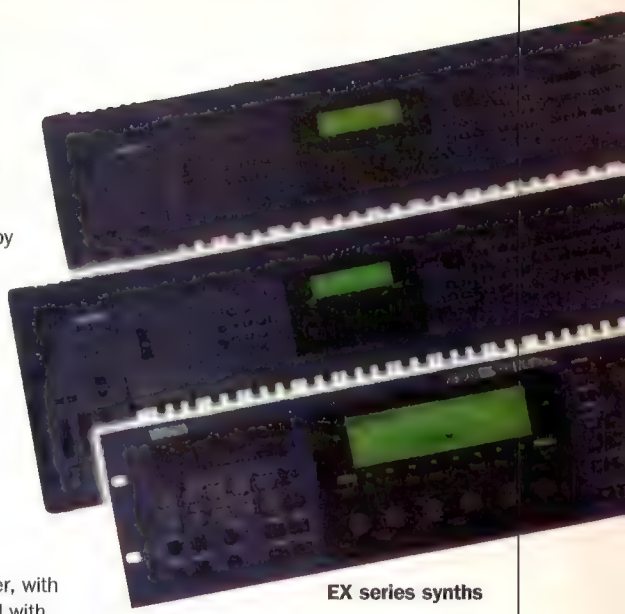
Another mixer we're keen to see in the flesh is Mackie's long-awaited Digital 8-Buss, which could be seen in action at last on the Mackie stand (well it wouldn't be on the Spirit stand, would it?). For those many who loved the Mackie 8-buss design, this model will definitely make the transition to digital at least a bit easier, but the escalating price-point may put it out of the reach of many interested project studio owners. There will still be many interested parties, though, since the 8-Buss's plug-in effects options, neat software and uncluttered layout give a different take on digital mixing. Which is where we leave this subject, and move straight on...

Synths and samplers

After the last two years of frenetic synth activity, you may have been expecting a hiatus in new releases. But although there were little in the way of new technologies on display at NAMM, manufacturers were trying to give you 'more, better or cheaper' synths and modules using existing technology. Top example of this is Yamaha's new EX series synths, consisting of the EX5 76-note synth (£1,899), EX5R rackmount (£1,599), and EX7 61-note synth (£1,399). The EX series are touted as Yamaha's flagship synths, and they justify this by packing in all the company's recently-used synthesis techniques: AWM2, AN (Analogue Physical Modelling), VL (Virtual Acoustic Physical Modelling), the new FDSP (Formulated Digital Sound Processing) and even sampling.

With 128-note polyphony on the EX5 and EX5R, these look like being real powerhouses and a diehard synthesist's dream.

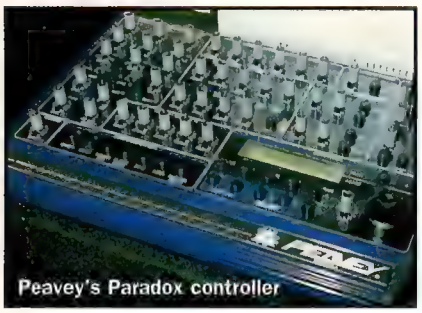
Roland haven't been napping either, with a whole new slew of products badged with the 'Groove' name, including the MC-505 (£949) – see *Future Music* this month for an exclusive review, JX-305 Groovesynth (a be-knobbed contender to Yamaha's CS1x and Korg's N5, cost £949), and the SP-808 Groovesampler (£1,099). The SP-808 demos were one of the highlights of the show for me, mainly because of its unique features. Combining a phrase sampler with hard disk recording, the 808 is clearly aimed at the DJ/remix market, but is 'serious' enough that many musicians who use loops will see it as the perfect production tool. Eight audio tracks, integral effects, 16 assignable sample pads and built-in Zip drive - not to mention its D-Beam controller (seeing is believing!) – make this a very interesting instrument indeed. Roland: give me one now!



EX series synths

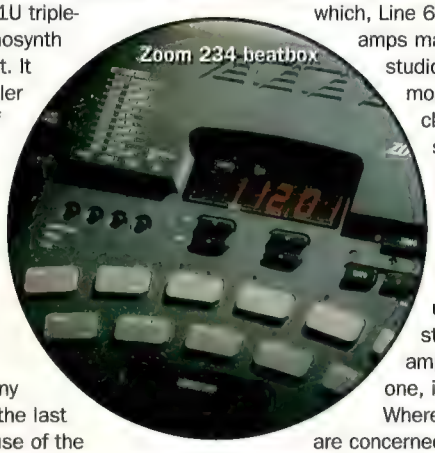
Those after a little creative help should look no further than E-mu's new Audity 2000, a modelling racksynth that uses its 'revolutionary Arpeggiator/Rhythmic Pattern Generator' to play up to 16 synchronised arpeggiator parts. Using 12th order filters, dual 24-bit effects and real-time control, the Audity promises some truly individual sounds, but unfortunately the box at the show was just that (a box), so we'll have to wait and see. Fans of Waldorf's Microwave series will be excited by the sight of the strikingly orange Microwave XT synth, which puts even more Microwave power at your fingertips. Alternatively, you may check out

Groove on! Roland's SP-808 sampler


Peavey's Paradox controller

Terratec's new 'Microwave on a card' (see page 58), an indication of where things may develop in the near future.

Peavey weren't to be left out of the synth party, either. Their new Paradox Valve (yes, really) Synthesizer is a 1U triple-oscillator analogue monosynth with valves on its output. It also has a natty controller – a panelful of knobs, if you like - that'll give you that crucial real-time control over its parameters. Prices in the UK have yet to be confirmed, but in the US they'll go for $899 for the synth and $499 for the controller.


Zoom 234 beatbox

We haven't seen many new drum machines in the last few years, mainly because of the dominance of sequencer/sampler/sound module set-ups, but Zoom have decided the time is right to launch their first drum machine, the 234 Rhythm Station. Priced at under £200, the 234 mimics many so-called phrase samplers by assigning patterns to a key, several of which can be played at once. Since there's also a good choice of basses on the 234, it's very easy to get a rhythm track going in no time. Of course you can use it as a conventional drum machine, too – the individual samples sound (as much as you can tell in a room inhabited by drummers and guitarists) very impressive.

Recorders, mics and effects

With new compact 'digital studios' coming at the consumer from all angles (Yamaha MD8 in this issue, Akai DPS12 and Korg D8 among others), it was no surprise that there were even more additions at NAMM. Roland led the way with two new members of their VS family, the VS-1680 16-track (£2,199) and VS-840 8-track (£949). Boasting 24-bit recording (it's those bits again), two optional effects units, and optional CD recording facility, the 1680 is a real powerhouse, and will be a very tempting upgrade for fans of the VS-880. If both of these are out of your reach, then try the VS-840, which gives you an easy route into the world of VS. A natty feature here is a dedicated guitar input which can be routed through the onboard COSM guitar pre-amp and speaker simulations. Speaking of which, Line 6's range of guitar amps may find favour in studios for their physically-modelled simulations of classic amps. It's a simple idea really - choose 17 of the best amps ever (including Fenders, Marshalls, Vox, Mesa Boogie), model them using software, then stick it all in a standard amp casing. Watch this one, it could be big!

Where hard disk recorders are concerned, Fostex will always have something to say, and at NAMM they unveiled the baby of their range in the form of the FD-4 (£TBA). This is a 4-track machine that allows you to choose your storage medium independently via an external SCSI device or an internal IDE hard drive. Fostex's logic is that hard drives are dropping rapidly in price, so best let the punter decide whether they use a Zip drive, EZ Flyer, hard drive or whatever. Either way, the FD-4 is a very attractive first recorder and should help initiate thousands more in the delights of HDR.

One of the best product launches that I've ever seen was for Alesis' new range of 20-bit ADATs. A video featuring a 'well-known engineer', Scotty from Star Trek, was used to extol the virtues of 20-bit recording and the ADAT format itself. This theme was continued at a party thrown at Alesis' new headquarters in trendy Santa Monica, where the great man himself teleported himself in (and dig this, entertainment was provided by the great Herbie Hancock - cool!). The number of ADATs sold around the world has now hit the 100,000 mark, so although non-linear recording is the word on everyone's lips, there are still a huge number of studios relying on ADATs and other linear media. Get the full story on page 32, including our exclusive review of the XT20.

There were many new launches in the area of speakers, microphones and signal processors, including JBL's LSR studio monitor and subwoofer system, Peavey's VC/L-2 valve compressor/limiter and new processors from Digitech, dbx and DOD (see separate story), but of particular interest to musicians and studios on a budget is the new Audio Technica 30 Series. Comprising three models - the AT3525 (£260) and AT3528 (£175) cardioid condensers, and AT3527 (£175) omni condenser – the aim of this range is to give quality studio condenser mics at a reasonable price. Applications include miking a range of instruments and amps (high SPL handling is a feature) while the AT3525 definitely looks

Twice as good: Roland VS-1680

Sequence synth: Emu Audity 2000

YAMAHA GET THE POWER

A new energy-efficient range of power amplifiers has been launched by Yamaha. Power ratings for the P1600, P3200, and P4500 are 230, 520 and 720 watts per channel, with the EEEngine Technology allowing the amplifier to produce the same amount of output power for around half the input power normally required.

Yamaha claim this outperforms other efficiency-enhancing systems like drive voltage switching, pulse-width modulation, and switching series regulators, without degradation of sound quality.

In normal stereo mode, separate input signals are routed to each channel with independent L/R signal control. An extra margin of flexibility is provided in parallel mode, which feeds a single input signal to both channels while maintaining independent L/R signal control.

Bridged mono mode can be used for extra high power in all three models, and frequency response is 10Hz to 50 kHz. Comprehensive protection systems prevent accidental damage to the amplifier or any connected speakers.

Prices: P1600 £499; P3200 £599; P4500 £699
More from: Yamaha Kemble
Tel: 01908 369269

Energy-efficient system

MACKIE IN VIBRATOR SHOCK

Us audio manufacturers Mackie Designs say they are in search of the ideal sound system. Engineers at the company are using vibration analysis to develop their new HR824 active monitor, and they say Ometron's VPI4000 vibration pattern imager has transformed acoustic design from a "voodoo rite" into a science.

Traditionally, speakers are designed using the highly subjective 'tweak-and-listen' approach. With the VPI 4000, Mackie engineers were provided with a clear picture of exactly what was happening on the surface of the speaker. Achieving uniform vibration across the cone or dome of a speaker will significantly improve its performance.

The VPI 4000 uses a low-power laser to scan the surface of a vibrating component Through 'fast-Fourier' transform analysis of the surface data it produces full-field vibration maps at selected frequencies. It was originally developed as a tool for automotive and aircraft designers.

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IN BRIEF

Blue Tomato Records are currently looking for new garage tracks for imminent release. Tracks with strong ideas and production will be considered, with studio time available for the best ones. Send your music to Unit 18, Croydon house, 1 Peall Road, Croydon, Surrey, CR0 3EX, or phone 0181 287 8585 for more info.

Cute FX 1.0 is a digital effects shareware program (£10) which runs on a standard PC and soundcard with no special hardware requirements. Effects including phaser, gate, compressor, expander, distortion, and delay are produced in real-time. An evaluation version can be downloaded from the internet: (www.poboxes.com/SoftwareForge/CuteFX/).

Four new condenser mics for the project studio have been released by **beyerdynamic**: the MCE90 vocal mic, MCE 91 handheld vocal mic, and MCE 93 and 94, designed for instrument recording. Prices range from £328 to £434.
More from beyerdynamic: 01444 258258.

Arcadia is a new band/DJ promotion company looking for musical talent. They're interested in anyone from alternative to serious house DJs, and claim they listen to everything that is sent to them. Send your demos to Arcadia Promotions, Ashcroft House, 15 High Street North, Dunstable, Beds. LU61 1HX.

Who says there's no guarantees in life? Here's a couple for ya: the **Oktava** MK210 condenser mic (£257) now comes with a lifetime guarantee, which applies to all mics bought after 31/1/98. And **Roland UK** have announced a three year guarantee on all Roland and Boss products purchased from 1/1/98. This doesn't apply to Boss pedals, which already carry a five year guarantee.

George Massenburg Labs (GML) have appointed HHB as exclusive UK distributors of their highly-respected top-end studio equalisers and dynamics processors. Their latest release is the 9550 Digital Dynamic Noise Filter (£7,397), intended particularly for the restoration of old and damaged soundtracks. More from HHB: 0181 962 5000.

UTAH VERY MUCH

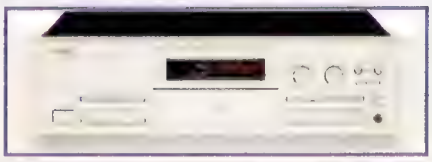
Harman Audio is one of the largest professional audio companies in the world, and *The Mix* recently had the opportunity to visit one of their plants in Salt Lake City, Utah. This factory is headquarters of Digitech and DOD effects, and also plays host to dbx dynamics processors.

All three companies were showing new products at the NAMM convention. Chief among these was Digitech's Studio 100 (bottom pic) a sexy-looking budget effects unit that'll retail for under £200, and dbx's exciting DDP. The Digital Dynamics Processor (below) will connect directly to your digital system to give you quality dynamics processing without ever resorting to analogue. Featuring factory presets, lots of programming options and comprehensive connectivity, the DDP looks set to take project and professional studios by storm. And having made their own silicon, it's likely that dbx chips may well appear in other manufacturers' digital projects in the future...allegedly!

There's some great audio products coming out of Utah at the moment, and it looks like there's going to be plenty more to come in the future
More from: Arbiter Group
Tel: 0181 202 1199

CD-R STABLE GROWS

There's a new contender in the burgeoning CD-R market this month – the Fostex CR200. Aimed at the pro user, the CR200 features a full complement of digital I/Os, including AES/EBU and S/PDIF coaxial and optical, a built in sample rate converter accepting 32kHz or 48 kHz, five flexible recording modes, balanced XLR inputs and a unique stable platter mechanism.
Also new from Fostex, the DP-8 digital patchbay, a 1U rackmount offering 8 I/Os (2 coaxial and 6 optical). The format enables the switching of both S/PDIF and ADAT Lightpipe signals.
Price: CR200 £1522
DP-8 £199
More from: SCV London
Tel: 0171 923 1892



PC OPEN DAYS

A series of open days open to everyone interested in creating music on their PC is being run by Et Cetera Distribution. The open days will take place at music stores around the country during April and May.

Demonstrations will include notation software, multi-track hard disk recording and editing software, pro multi-track digital audio cards and soundcards, and sequencers including Cakewalk and Cubase VST. Special deals will be on offer on the day.

Here's a list of places and times: London: Sat. 11 April, 2-7 pm, Chappels of Bond St. Nottingham: Sat 18 April, 2-7 pm, Millenium Music Software. Leeds: Sunday 26 April, 1-5:30 pm, Sofiscotech Mix n Midi. Glasgow: Tues. 5th May, 2-7 pm, Sound Control. Edinburgh: Friday 8th May, 2-7 pm, Sound Control. Newcastle: Thursday 14th May, 2-7 pm, Sound Control. Birmingham: Friday 29 May, 1-5:30 pm, Musical Exchanges. Bristol: venue and time TBA.
More from: Et Cetera
Tel: 01706 228 039

TANNOY GO ACTIVE

Tannoy have launched their new system 600A nearfield active monitors. Each speaker includes 2 X 75 watt power amplifiers delivering a maximum SPL of 117 dB. The 6.5 inch dual concentric driver is loaded with a bass reflex cabinet with two flared port tubes, providing a 44 Hz-20kHz frequency response at ±3dB. Inputs are 10Ω balanced combined XLR/1/4" jack connectors, and sensitivity is switchable between -4dBu and -10 dBu. LF and HF contour switches allow for close to wall mounting.

The launch coincides with the announcement that Tascam have become the sole UK distributors of Tannoy studio monitors. Tannoy will continue to distribute their range of PA, reinforcement and installation speakers.

Price: £848/pair
More from: Tascam
Tel: 01923 819630

Nice n' loud

NEW PCI CARD

Soundscape have announced a new PCI digital audio interface card which has several unique features which distinguish it from the competition, and mark it as a possible market leader for 1998.

The card has the ability to run 16 tracks of digital audio simultaneously, in and out of the computer, using two standard TDIF ports. To seamlessly achieve this, the card will be supplied with the professional V2 MIXER Software from the widely used SSHDR-1 Plus DAW (5000+ systems worldwide). This is a major advantage, as it allows the use of high quality third-party plug-ins developed for the SSHDR-1 Plus, such as the TC Reverb, Wave Mechanics Reverb and the Soundscape Audio Toolbox, all available now, with more in design for release later this year.

The TDIF ports allow easy integration with other equipment and it also has MIDI in/out/thru and optional S/PDIF in/out wordclock. The card will be available in the summer, and the price will be around $700 (UK price TBA).

More from: Soundscape
Tel: 01222 450120

DIGITAL CANS

Two new headphones aimed at the digital recording market have been launched by beyerdynamic. "Only these headphones are responsive enough to accurately reproduce what the new digital technology is capable of sampling and recording", claim the company.

The DT831 (enclosed) and DT931 (open) both provide extended frequency response due to the newly-developed steel in the magnetic circuits. Diffuse equalisation is employed for accurate reproduction of the original source, while acoustical response is improved by using CAD assisted design in engineering the ear cups. The modular design assists in-field servicing, and perhaps most importantly, both models have been designed for comfort, particularly important during long recording sessions!

Price: DT831 £180; DT931 £234
More from: beyerdynamic
Tel: 01444 258258

Some digital multitracks can be tough on tapes.
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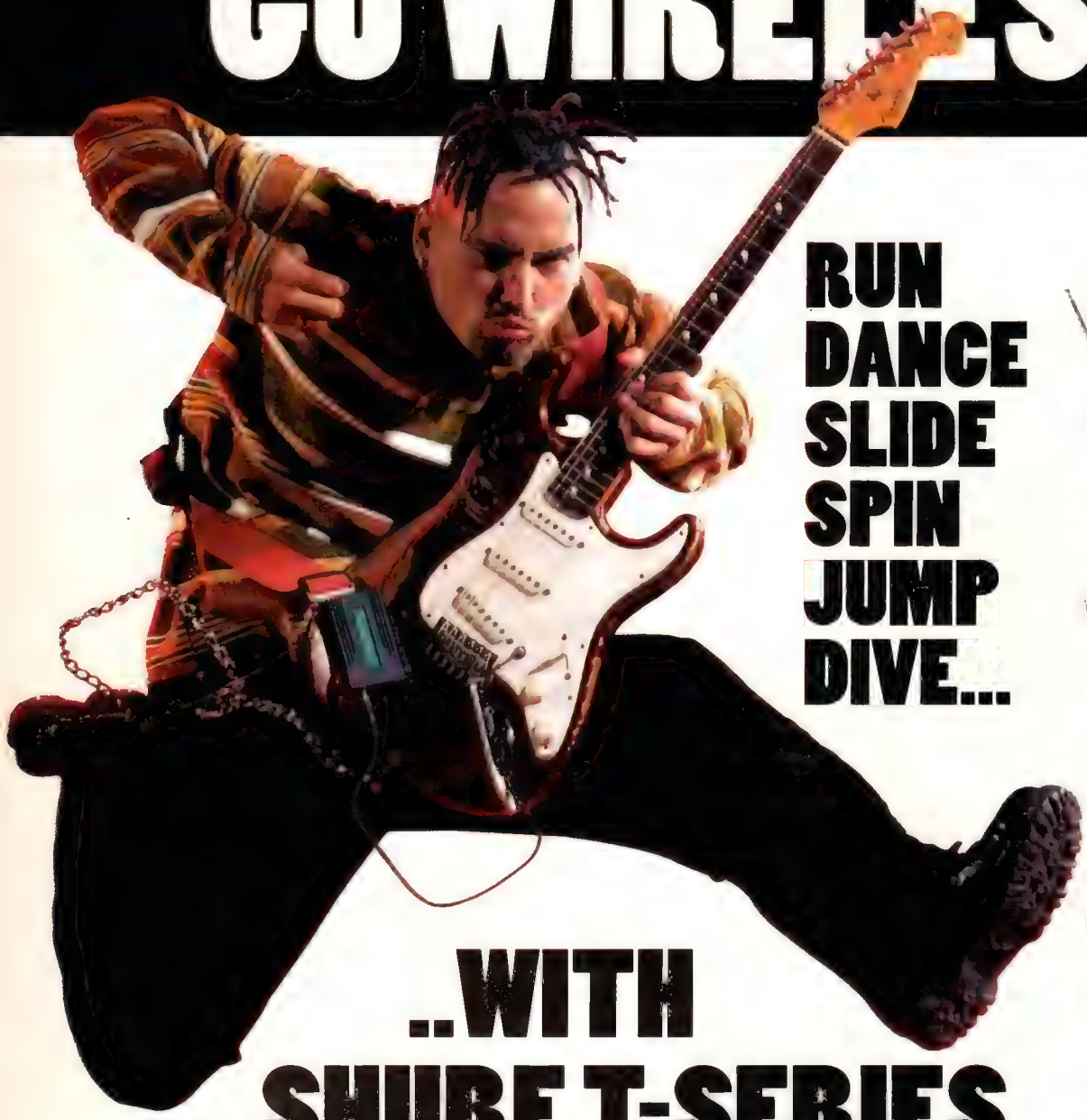

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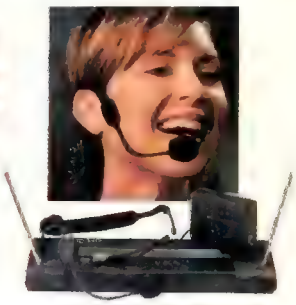

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the part as a main studio vocal mic. On the effects side, Lexicon had two new processors of note, the MPX G2 (£TBA) guitar effects and the MPX100. Studio users, professional and home, will be getting excited at the prospect of the MPX100, becuase it's the replacment for the mega successful entry-level Alex. For only around £250, the MPX100 features the latest Lexicon chip for high quality reverb, 240 presets, and full MIDI control - order a six-pack while you can!

Parting thought...

While the whole recording world seems to be turning digital, it's best not to forget that the vast majority of mixers in use are still analogue. Allen & Heath haven't forgotten this, indeed, they've made a point of it in their new GS3000 8-buss recording console by uniquely including two valve mic/guitar pre-amps as standard. Nice idea. This looks like a good solid recording desk, offering 4-band EQ (2 parametric mids), and available in 24 and 32 frame versions, and the usual high standard of construction we expect from A&H. There's still a lot of mileage to be had out of analogue, so don't feel left out if you don't have the latest all-singing, all-dancing digital console. Which is, I believe, where we came in...

• *Chris Kempster*

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Sound Bites

We want the dirt, we want your anger, your opinions, your experiences, and your reactions. A sentence or a saga, it doesn't matter; everyone stands a chance of winning that Shure jacket for *Letter of the Month*.

Selfish advice

Have you ever been advised on the best buy, only to find that it just happened to be the most expensive? Is it really necessary to spend a fortune to get your tune down?

Standardised confusion

Putting two cables together is not always simple. What do you think about the proliferation of technical standards? Does it cause more problems than it solves?

Write to us: *Open Mic, The Mix*, Future Publishing, 30 Monmouth St, Bath BA1 2BW
Email us: themix@futurenet.co.uk

That question again

Is there any chance we could have a few less 'I've just bought a PC and want to make music – what should I do?' type questions? They seem to be in every issue, and the answer only changes depending on what software is best at the time.
Angus, Email supplied

Paul Mac, our Technical Editor, compiles the *Help File*. He had this to say:
It's true that this kind of question can be a tad annoying for anybody who has already got their PC system and knows the score. However, the fact that we keep the answer up to date with the latest releases is in itself a good reason to include it. It's often difficult for people to get the 'big picture' when reading through isolated reviews, and Help Files that ask about complete systems are good antidotes to that. We only print one such letter in any Help File; the one most representative of those we receive.

The Help File, and the rest of the magazine for that matter, is a balancing act. Of course, if that balance isn't right, we want to know, so keep those letters coming.
Paul Mac

Should we do more basics articles? Should we do less? Should we all just go down the pub? What do you think?

Nuts to Acorn?

I don't know much about Ataris. But there is a computer system that is far from dead and is never covered by any of the major magazines. And it's British. And it's great. I'm referring to Acorn Systems' Archimedes. Alright, they probably have the lowest user-base of any of the major systems, but let's just look at what they can give to a recording/MIDI-oriented person.

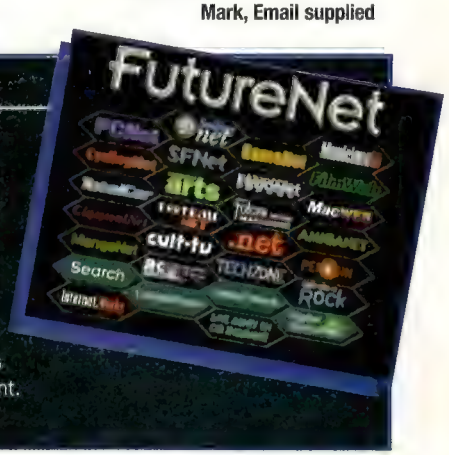
Currently they can take two, and pretty soon they'll have up to 16 MIDI ports (that's 256 MIDI channels!). Also on the way is a true 8-track hard disk recording and sequencing system with an S/PDIF interface, onboard DSP, and all sorts of lovely gismos. There's sample editing and sequencing software, support for re-writeable CDs, and sampling direct from CDs. The friendliest, quickest GUI ever made, with Windows compatibility in the form of an optional second processor... Oh yeah, and there's Sibelius (which you must have heard of).

Those of us who choose to follow a different path do so in the knowledge that we're on our own. The magazines don't review our software; the shops don't sell it. Alright, the software is still at an early stage and is lacking in certain areas, but when did you last send an Email to Steinberg saying 'Can you make it do this' and receive a reply the same day saying 'Here's a little program I knocked up to do what you wanted'? I've done that with Oregan Developments and the program worked.

I use PCs all day at work, but having used my Acorn RiscPC system I would never exchange it for a PC-based one. Can we have just a bit of coverage, please? Especially with Ian Waugh (who I'm certain was a BBC Micro sound guru all those years ago) writing for you...
Mark, Email supplied

Internet Forum

Want more talk? Then check out the Futurenet Hitech Music Forum, a live Internet chat page. In the coming months we'll be relaying the best bits from there, in here, and relaying the best bits from here, in there. So type http://www.futurenet.com into your browser and say hello to the rest of *The Mix*-reading world. You can advertise gear for sale, ask questions, stick your oar in on any of the subjects discussed in *Open Mic*, or start your own argument. See you there.



Ian 'all those years ago' Waugh, is still a guru, and still as young as the day he decided to stop getting older. Ian says:

I started my computing career on a Beeb and have variously used Ataris, Amstrads, Commodore 64s, Amigas, QXs, Falcons, PCs, Macs and, of course Archimedes. The Arc' is a nice machine with an under-rated interface and it's a shame it's not more popular. But the market – particularly the music market – is very much consumer-led and if the punters aren't out there, it's commercial suicide to spend time and money developing software for a system if it's not going to sell.

Your list of available software and hardware for the Arc' is encouraging but it only serves to highlight the veritable plethora of software and hardware available for the PC and the Mac (check out this month's free CD-ROM for evidence of this).

But the main thing is that you're happy with your Arc' and it's doing good service. Sibelius is the best reason for using an Arc' that I can think of. It's one of the very few pieces of truly innovative software and it deserves wider appreciation.

Ian Waugh

Does anyone else use Arcs for recording? Tell us about it.

Amigas alive! (continued)

Last month, Christopher Neil Hindley sung the praises of the Amiga, and Nick Veitch, editor of *Amiga Format* put his two penneth-worth in. Now, another harmonious sentiment completes the triad.

At last! Someone else out there appreciates that the Amiga is more than an old games machine. I have worked in various studios over here in Germany, with PCs, Macs, and a few different sequencer programs, only to find that in about 90% of projects undertaken, the Amiga would have sufficed. Sure, The PC/Mac can do this and do that, but as long as you have this amount of memory, and this chip, with that upgrade! It always amuses me to hear studio owners boasting that the latest software is far better than anything else before because it can process a few extra tasks more than a previous version. When you ask those people if they really need the extra facilities, more often than not the answer is "no".

In my own project studio, I've been using an Amiga running Music X for a number of years now, despite the initial snobbery shown from potential clients. I have always achieved excellent results without in any way feeling compromised by 'inferior technology'. Yes please! Give us more Amiga in *The Mix*.

IC Mackellar, Germany

Chris Kempster, *The Mix* Editor, replies:
We seem to have hit on a theme. First, an overwhelming majority voted against the idea that the Atari is dead (if you've been following Open Mic, you'll know how strongly people feel on this one). Second, we now have enthusiastic advocation for the Amiga and the Acorn. How far back do we go? Do you want to see articles on the ZX81, Spectrum, Oric 1, Commodore 64 or Dragon 32? But seriously, as long as musicians are still using machines like the Atari, Archmimedes and Amiga, we will continue to support them in The Mix. However, I can neither confirm nor deny the rumour that a feature about music on the Amiga will appear in a upcoming issue...

Chris Kempster

It really happened

We thought you might enjoy a couple of anecdotes from the world of technical support. Strange as it may seem, they're both true:

A customer having trouble with his CD-ROM phoned Apple customer support. The engineer started with some basic questions: "Is the CD-ROM in the drive?"

"Yes," came the reply.

"Do you get the icon on the screen?"

"No."

"Is the door closed?"

The engineer then heard the customer get up from the computer, walk across the room, slam the door, and return.

A customer, unable to install new software, was asked to "copy the disks, and send them in". The next day, technical support received an A4 photocopy of the disks.

Thanks to the sales team at Stirling Audio Systems for supplying this month's laughs.

Letter of the Month

A, but not D

Recently I was working as a sound technician at a local theatre. Although the show, a pop musical, was an amateur one that lasted for only 14 days, the musical standard was very high, and the songs were recorded on DAT and MD.

I am in many ways a 'digital guy' as I spend most of my evenings in my room, which is stacked with keyboards, all connected to my beautiful PC. But, one night I brought my professional Denon cassette recorder (and a very expensive cassette) with me to the theatre and recorded the show.

Whoaah, that's cool!

As we listened later on to the different recordings, the musicians were astonished by the sound from my analogue tape; it had really captured that live feeling much better than the DAT. Synths were fatter, trumpets brighter, and guitar solos crystal clear. Of course, there was the characteristic tape-swish (a rather charming noise) but I found the analogue recording to be more dynamic than the digital ones. The MD recording was no good; that medium is just not an option for me.

So my question to you guys with the knowledge is: Have my ears got a 'digital filter', or is the good old analogue tape better than most people would like to admit?

Love the mag,

Paul Schaathun, Norway.

So, Paul Mac gets to write two replies this month:

Audiophiles will quote bit depths and sample rates, third harmonic distortion, wow, flutter, quantisation error, and so on. Yes, sometimes these are inescapable considerations, biologically tied to the audio-inclined. However, the golden pinner brigade will quote just one criteria – your ears. The truth is between these. On one hand, you have to consider other listeners, playback media, copy generations, and interconnections; on the other, if it sounds good, it probably is good.

DAT machines have always performed better with controlled, even compressed studio material than with the dynamics you have in your theatre presentation. It's the same reasoning behind the classical recordist's choice between analogue and 20 or 24-bit (and the recent moves towards higher sample rates). For them there's no middle ground. And have you ever considered why some DAT machines are £800, and some are £8,000? The addition of timecode could hardly account for that discrepancy.

This in no way discounts digital. Bits and bytes, especially high bit depth, have too many advantages to list. You might be listening to the sound of the tape, not the sound of the performance... but this isn't a Help File. If you like the sound of the taped version, go with it. It's unlikely your preference will halt the digital revolution, and there's nothing wrong with your ears that a good long studio sitting won't cure. But maybe, just maybe, you don't want your ears cured?

Paul Mac

Do you use analogue in preference to digital. Why? Write and tell us about it.

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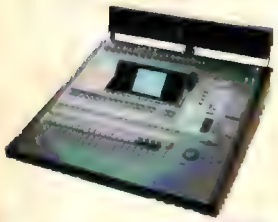

The O2R digital recording console offers compatibility with all major digital audio formats. With up to 40 inputs, 8 busses, full on board automation, 32 bit internal digital processing, 4 band EQ and dynamic processing on every channel. This is the only serious choice for recording and post production.

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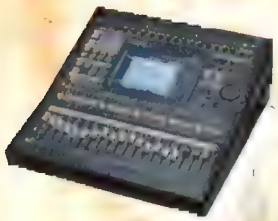

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The O3D digital recording console is a compact version of the O2R. It features 26 inputs and 18 outputs and still incorporates full automation, 32 bit digital audio processing and 32 bit on board multi effects processors. This is a totally affordable desk that out performs anything in its price range.

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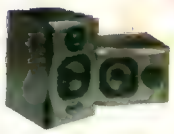

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REVIEWS

This month...the first look at Alesis' new ADAT Type II multitrack tape machine, Spirit's FX16 mixer (including Lexicon FX!), and Yamaha's new 8-track MiniDisc

Who tests the gear

Our team of equipment reviewers are all audio industry professionals, experts in their chosen fields – engineers, producers, musicians, software specialists and audio journalists. This means that you can trust the opinions expressed in their reviews.

How the gear is tested

Wherever possible, the gear we test is used in actual sessions. Indeed, some of the biggest-selling records this year will have acted as testbeds for our reviewers. We believe that to truly evaluate kit properly, it needs to be tested in studio conditions – not a dark room!

Impartiality

Reviews in *The Mix* are in no way biased towards certain manufacturers. We will deliver an impartial verdict on a product whether or not a manufacturer advertises in this magazine. Our first duty is to you, the reader, and our goal is to give you the best possible advice on buying equipment. We will not hesitate in exposing sub-standard equipment.

THE MIX EDITOR'S CHOICE

Products that are judged to be outstanding by our reviewers are awarded the 'Editor's Choice' tag. In a standard review, this means that the product offers exceptional performance for the price it retails for. In group tests, there may be two awards – 'Best Performance' and 'Best Value'. The 'Best Performance' award will go to the product that offers the best performance *irrespective of price*. The 'Best Value' award will go to the product that offers the best price/performance ratio.

Hardware

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ALESIS XT20

Type II ADAT £2,299

The Alesis ADAT is the most popular digital multitrack in the world. Bob Dormon finds out if their new 20-bit XT20 is a must or just a maybe for audiophiles

Technology is intoxicating, it's exciting, it's all you ever wanted and occasionally it's a con. Anyone with even a passing interest in computers will be aware that there's always something faster, friendlier and frequently, forbiddingly expensive to tease their tech buds with. Investors in such delights often take their new toys home, only to find they are incompatible with their older equipment.

Generally, there are work-arounds to resolve such problems, but often at the expense of the functionality of the new machine. More often than not, you end up driving in the slow lane when keeping company with older technology. This is true of digital audio, and is certainly true of the new Alesis ADAT LX20, XT20 and M20.

These machines are fine examples of advances in technology reaching a consumer price point. Actually, 8-track 20-bit audio recording has been around since 1991 (the year the Alesis ADAT was launched), when Yamaha revealed their DMR8 digital mixing console with built-in cassette-based recorder. Needless to say, it was expensive, so only now, seven years later, do we see such achievements of audio engineering excellence appearing on consumer-format machines.

The case for having four more bits to record onto is quite straightforward. On paper, it adds a further 24dB to the dynamic range of the system. Essentially a 20-bit system allows you to record with more accuracy as you get to use up to 1,048,576 digits to encode the amplitude of your audio rather than the 65,536 values on offer with 16-bit audio. It is the low- level audio signals that are benefiting from the increased quantization values available in 20-bit digital audio.

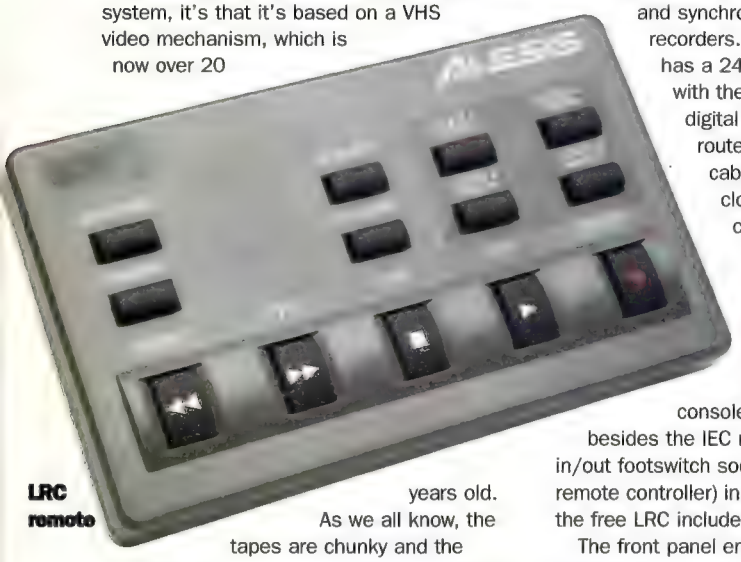
Bits working

If that sounds all well and good, what's the catch? Is a new XT20 owner going to be forced to drive at 16-bits per sample when there's a 20-bit engine under the lid? Well, yes and no. It all depends what equipment the XT20 will be holding hands with. The

Those four extra bits will make all the difference to low-level audio

XT20, LX20 and M20 are all referred to as Type II ADAT machines. The 'Classic' black ADAT and the XT are Type I models. The main difference is that Type I ADATs are only capable of recording a 16-bit signal to tape regardless of whether the specifications of their convertors is greater than 16-bit. The new Type II models, being 20-bit savvy, have to adapt to accommodate the older machines. The options are to behave as 16-bit machines or to create 16-bit clones from 20-bit masters for use on Type I systems. These approaches will be examined in detail later, but first, what about the stand-alone machine, and in particular the XT20 on test here?

If there is an Achilles heel of the ADAT system, it's that it's based on a VHS video mechanism, which is now over 20 years old. As we all know, the tapes are chunky and the transport clunky, yet the ADAT optical 8-channel digital interface system is extremely funky. It is mainly the latter that allows the ADAT to endure, with over 20 different manufacturers making a range of products that integrate with the ADAT system. So if you were tempted to marry into this family, what exactly would you get?



LRC remote

Overview

Apart from its rose-tinted fascia, the XT20 looks just like the ADAT XT before it, with the model name on the tape bay flap and ADAT Type II appearing in the top right corner to tell them apart. For those unfamiliar with the XT, the XT20 shares the same cluster of additional editing and locate features on the front panel that the Classic ADAT lacks. Among these are ten user locate points, track copy, and metering options. Round the back, the main changes with respect to the Classic ADAT are the replacement of the -10dBV 1/4"jack interfacing with phonos. For the professional, there's a 56-way ELCO/EDAC connector that provides balanced +4dBu analogue ins and outs.

The back panel is also the path to digital enlightenment with two ADAT optical interfaces (digital in and digital out) plus two 9-pin D-type connectors (one male, one female). The latter Sync I/Os provide word clock and transport information for interfacing with ADAT peripherals and synchronising with other ADAT recorders. The optical interfacing has a 24-bit capability together with the eight channels of digital audio that can be routed through fibre-optic cables. Typical uses are cloning entire tapes or comping tracks to other machines and of course, linking to digital mixers such as Korg's SoundLink 168RC or Yamaha's 02R/03D ProMix consoles. Other features here besides the IEC mains socket are punch in/out footswitch socket and LRC (little remote controller) input, the latter being for the free LRC included with every ADAT.

The front panel enjoys a much more informative display than seen on the Classic. Apart from the transport controls, all the function keys on the XT20 will have a reference appear on the fluorescent display. Incidentally, this display can be brightened or dimmed by pressing the Peak Clear key and using the Pitch Up/Down cursor keys.

Immediately below the display and above the track record select buttons are eight black function keys with white legends. The Abs/Rel key under the Counter heading offers the choice of showing Absolute time or Relative time. Just like a DAT recorder the ADAT records its own absolute time reference throughout the length of the tape during the formatting process. Relative time is an option so that you can set a zero point (when used with the Locate 0 key) anywhere on the tape. The ADAT uses its Absolute time reference to generate MIDI time code and SMPTE when used with a BRC (Big Remote Controller) or in conjunction with third party devices such as the JL Cooper dataSYNC, the MOTU MIDI Time Piece A/V, and Opcode's new Studio 64 XTC synchroniser. There's also a number of interface cards appearing that use this information to synchronise ADATs to hard disk recorders, expanding the possibilities of the system considerably.

The two Peak Mode and Peak Clear buttons beneath the Meters heading influence the response the behaviour of the 13 segment bargraph display. Peak mode doesn't actually have an indicator of its status other than the meters themselves, yet the three Peak Hold conditions are fairly obvious when viewed. Continuous 'holds' the position of the highest level, keeping that point illuminated on the display. If you're distracted or busy improving the monitor mix while the band warms up for a recording, it can be very helpful to spot if any tracks are overloading. You can use the Peak Clear button as you progress so you can continue to evaluate your levels. Momentary, it will keep peaks displayed for around two seconds, while No Peak continually updates its level status. Either of these are fine for general use.

Internal routing

The Input Select section features three function keys: Analogue Input, Digital Input and Track Copy. The first two are self-explanatory, simply changing the ADAT to record either an analogue or digital source. However, if you press and hold any of these input keys then you can use the record select buttons to change the input routing on the ADAT. Underneath each meter and below the record ready light for each track is a further blue status LED which appears when the Analogue Input, Digital Input and Track Copy buttons are held and record ready buttons are depressed. For the analogue input this simply allows you to change the input mode so that all eight tracks can be fed from either two, four, or all eight inputs. Press record button one or two and input one will feed tracks 1,3, 5 and 7, with input two sending to tracks 2,

ADAT Family Values

After much hype and incessant mutterings among professionals that this system would never deliver its promise, the Alesis ADAT was launched in 1991. Here was an [illegible] recorder that you could link up to 15 others and get 128 tracks of digital audio all controlled from the BRC (Big Remote Controller). That was the theory, and today variations on such a theme are common practice in the recording world. The Black Class 'ADAT has been discontinued yet the ADAT in all its permutations is still going strong, that not only works, but works with other stuff in a way they [illegible] The Al-1 is still a key component that enables the system to chase to video. The belated Al-1 allowed so much digital gear (be it optical, coaxial, [illegible] ADAT form of) to integrate with it, add on a wide sample rate conversion to boot, that its disappearance suggests either cost or madness or both was responsible for its untimely demise.

Disappointingly, aside the [illegible] the Big Remote Controller is clockwork. Under the guise of an autolocator the BRC is little more than God to its ADAT underlings. It has the power to [illegible] the SMPTE scrolls, generate MTC, and clone at will. Among those that can walk in this promised land are the ADAT XT, which arrived in 1996, a machine featuring a faster transport and some of the BRC's functionality. A year later the M20 appeared with its 24-bit converters, 20-bit encoding and ability to control multiple machines. The M20 can scrub the audio, it has a built-in Al-2 and has adopted all the best bits of the BRC philosophy such as timecode facilities.

The XT20 is described here in detail, yet the LX20 is more akin to the Classic ADAT and fills the gap left since its departure. With five locate points and 20-bit recording, it is less expensive, helped in part by the absence of the bit mixer - added ELCO [illegible] it has the price only for [illegible] signal.

As each month passes there seems to be more disciples joining the ADAT community. Alesis developed their own ADAT compatible environment, namely the Quadraverb, Quadraverb GT, MIDIVERB IV and GT effects unit. Others such as Korg have followed with their ADAT- equipped Trinity synth, 168RC mixer and 1212I/O PCI audio interface card. Alesis have taken up the challenge of the latter with their own ADAT PCI card. While the S-VHS format is not to everyone's taste, it seems that the ADAT [illegible] has established itself as a most practical audio format. We may well bury the tape recorder, but the ADAT optical interface seems destined to live on. ■

4, 6 and 8. Press buttons three or four and input one feeds tracks 1 and 5, input two feeds tracks 2 and 6, input three tracks 3 and 7 and so on. Press record buttons five and upwards and each independent input feeds the relevant track.

This arrangement also holds true for the digital input mode, but it has to be used carefully as experience has shown that some digital mixers get very confused with this arrangement and simply obey the ADAT without conveying any reason for their behaviour. For example, trying to get an 8-buss Yamaha 02R console to work digitally with an XT in this input mode can be very frustrating unless you check these details, as the routing on the 02R digital desk becomes overridden by the ADAT's digital input routing preferences, which allow any number of inputs to be used and not just groups of two, four or eight as in the analogue mode. If you want an easy life, you must check this out when using digital mixers with an ADAT XT/20, and the same goes for use with a BRC.

Track Copy also requires you to hold the key down, but this time to select up to four source tracks. Simply release the Track Copy key and then choose the destination tracks by using the record select keys, and you can copy the tracks within the XT20.

The Input Monitor section is very conventional, providing two options. The first is All Input. This sets the status of the recorder to monitor whatever is present at the input for all tracks. The second is Auto Input. This mode changes depending on use. If the XT20 is stationary then the input can be heard. When the XT20 is playing, the tape is monitored until recording takes place.

Playback pre-requisites

Above the transport keys are ten locators numbered zero to nine. Using the Set Locate key adjacent to them, you can store locate points on the fly and even edit their values later with the help of the Edit Value key, and the Up/Down keys (primarily used for vari-speed). Now there's something you don't come across too often on a hard disk recorder.

Written in grey above certain locate keys are their predetermined roles as locators for auto return and auto record modes. There are keys to initiate these functions on the far right, including a Rehearse function so you can check out any drop-ins. Also in this area are the Clock Select, Format, Digital Out, Track Delay and Tape Offset controls. Tape Offset allows the XT20 to be used with other ADATs of any generation, so that parts can be copied freely to new locations on the tape without the need for a BRC.

Track Delay can be applied to tracks individually, with a maximum delay time of

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DISTRIBUTION

The ADAT digital interface has been adopted by numerous manufacturers

170mS. Edit Value needs to be depressed and a track selected; you can use the Up/Down keys to delay in 0.1mS steps, which can be tedious. The Alternative is to key the numbers in with the numbered locate buttons. On the Classic, the BRC is required to access delay functions.

Digital Out is actually a new feature which, for reasons that will soon become obvious, doesn't even appear on the original XT. Repeated presses on it scroll the display through 16 (a 16-bit output), 16 dt (16-bit output with dither) and 20 (20-bit output). The primary function of this arrangement is to offer alternative ways to digitally transfer audio from a Type II ADAT (20-bit) to a Type I model (16-bit). In 20-bit mode the last four bits are ignored by the receiving 16-bit machine. With just 16-bit mode the output is virtually the same as above with the last four bits being zeroed. When the 16-bit output is dithered a process of randomization is applied to these low level transitions so that the truncation of the last four bits is less obvious. Furthermore, if you're using your XT20 with a digital mixer capable of handling the 20-bit word, then check the Digital Output mode. While the main display will show whether a tape is 16 or 20-bit format, it does not indicate the actual status of the digital output signal. You have to press Digital Out to see a momentary status readout.

Like the Digital Out selections the Format function decides both the audio quality and the compatibility of the tape, as it can be set to 16-bit (for all models) or 20-bit for the LX20, XT20 and M20.

Clock Select has four modes, which are basically a choice between 44.1kHz and 48kHz with reference to the internal clock or an external digital clock source. Failing to set this correctly when using a digital mixer can result in intermittent clicks, which is a telltale sign that one of the devices needs to be set to slave to the other's clock.

Spec Sheet

Recording Format:	**ADAT Type I (16-bit), ADAT Type II (20-bit) rotary head digital recording**
Audio Channels:	**8**
Digital Conversion (A/D):	**20 bit linear, 128X oversampling, single converter per channel**
Digital Conversion (D/A):	**20 bit linear, 128X oversampling, single converter per channel**
Sample Rate:	**44.1/48kHz, selectable**
Frequency Response:	**20Hz to 20 kHz, ± 0.5dB**
Dynamic Range:	**102 dB, A-weighted**
Distortion:	**0.003% THD**
Wow and Flutter:	**Unmeasurable**
Analogue Inputs/Outputs:	**1 ELCO connector (in/out), 16 phono (RCA) jacks, 8 input, 8 output**
Digital Inputs/Outputs:	**8-channel ADAT Optical jacks (1 in, 1 out)**
Synchronization:	**ADAT Sync Input and Output**
Dimensions (WxHxD):	**190x 5.25" x 11" (133mm x 483mm x 280mm)**
Weight:	**20 lbs. (9.5 kg)**

Verdict

Operationally, the ADAT XT20 appears no different to the XT. It has an extremely fast transport, which can be a bit unruly as it just does its level best to get up to full speed whatever you're doing. To avoid a love-hate relationship you have to keep using the locators, which is a good habit anyway, but we musicians are noted for our spontaneity, and being dictated to by a machine doesn't always wear too well.

On paper, the XT20 seems to have only a marginally improved sonic performance, producing the theoretical equivalent of a 17-bit system (with its 102dB dynamic range), yet unsurprisingly, it delivers what we've all come to expect from this technology. As with all digital systems, the figures alone don't tell the whole story. It bears comparison to computer monitors: some run at thousands of colours which when viewing images appears fine, but only when you get to see the same images at millions of colours do you appreciate the difference. The important thing to know though is that, theory aside, it *does* sound better.

One gripe was the rather inept implementation of the Digital Out facility. There is no permanent indication of whether you are sending 16-bit, 16-bit dithered or 20-bit audio out of the digital interface, and each time you press the Digital Out button the status changes rather than recalling the current status first. You'd better watch out for this, as it could be a case of 'The Emperor's new clothes', with folk all nodding in appreciation at the 20-bit sound of their XT20 digitally interfaced to a 20-bit capable desk, when in reality it is receiving 16-bit audio by mistake! A software update should fix this easily enough, though.

That aside, the XT20 has a fine array of features as a stand-alone digital recorder and there's plenty more to buy into. With the traditional ADAT benefits of low-cost media and a widely used format coupled with the improved sonic fidelity, it looks like ADAT will continue to sell in numbers for the forseeable future. ■

More from: Sound Technology, 17 Letchworth Point, Letchworth, Herts SG6 1ND Tel 01462 480000 Fax 01462 480800 Email: info@soundtech.co.uk

ALESIS XT20

WHAT WE LIKE

- Improved sonic capabilities
- Compatibility options with Type I 16-bit models

WHAT WE DON'T LIKE

- Over-zealous transport mechanism
- Digital out implementation

OVERALL

Traditional ADAT benefits of wide user base, commonly-used interface and low-cost media tape are combined with improved sonic fidelity. Nice!

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SPIRIT FX16

Another small-format 4-buss mixer has entered the market, this time with added Lexicon effects. Norman Fay sees if it stands out from the crowd

Compact 16-Channel Mixer £849

Anyone looking to buy a compact, rack-mounting mixer today has a tough choice to make. Since the arrival of Mackie's original CR1604, this section of the market has exploded with a profusion of similarly specified, and often very similar looking devices. Although choice is supposed to be a good thing, it is a little depressing to see just how closely many compact mixers resemble Mackie's design, both in terms of the layout and in the style of the faders and knobs.

While we're in a gripey mood, another big downer is the way that some manufacturers tell us how many inputs their mixers feature. Equating input sockets with the number of actual channels on mixers featuring stereo channels is bad enough, but boosting the numbers by listing effect and tape returns along with the channels can verge on the deceitful.

With the above in mind, it's fair to say that the Spirit FX16 made a good impression straight out of the box. Although it's the same size as a Mackie CR1604, it doesn't look remotely like one – even if you squint at it. Better still, 16 channels means exactly that, not eight mono and four stereo

channels. In addition to your 16 fully featured inputs, you also get four stereo effect returns and a stereo tape return – 26 inputs in all. The desk is 19 inches wide, and rackmountable with an optional kit, in which case it'll take up ten units of rack space. In common with most desks in this format, the FX16's connector panel will rotate through 90° so the connectors are at the back when it's racked up. The FX16 is a little taller than most desks in this format, and it's also a little lighter in weight, which probably has something to do with the separate power supply. You may not approve of these, though to be fair, they do keep the cost down, and make it easier for manufacturers to pass EC emissions regulations.

Overview

The FX16 is conventional in its layout, so you'll quickly adapt to it if you're trading up, and it'll be easy to learn to use if it's your first desk. Each channel has balanced XLR mic and line jack inputs, as well as an insert socket. None of this is unusual on a desk of this sort, but the FX16 also has an individual direct out on each channel, which is less common. As we shall see, this is one of several ways that this desk goes the extra mile in terms of features.

Looking at the channel controls themselves, and starting at the top of the channel strip, we have a gain control, with a button switch for a 100Hz low-cut filter. This leads into the 3-band swept-mid EQ, and then we have four aux sends. Three of these go to balanced sockets on the back panel, while the fourth is routed internally to the built-in effects processor, and can't be used for anything else. The three external sends are divided up into one pre-fade, one post fade, and one that is switchable on a per-channel basis. Next is the pan control, and then we have the routing switches. Rather than having a single switch to select between main and sub outputs, Spirit have opted for maximum versatility and supplied a pair, which is much appreciated.

Situated rather close to the routing switches are the mute and solo buttons, with the latter having an LED indicator that doubles as a channel overload warning. Further down from this is another switch that selects between pre and post-fade for each channel's direct output. The manual explains that this allows the FX16 to be used as an FOH (front of house) desk with the facility to do multitrack recordings of live performances; that is, the engineer can adjust the levels of individual musicians in the P.A. without worrying about the level going to tape. This is a clever feature, and though it may only be used by a minority of potential buyers, it does suggest a thoughtful approach to design. Finally, we have the 100mm channel fader, which is nice and long for precision mixing. During the review, the movement was found to be a bit slippy, though others may find it perfect.

On the whole, the channels are well laid out. Despite the compact design of the desk, the markings are readable, and although the pots are close together, they are no more so than on any other desk of this type, and the shape of the fader caps makes them a lot less fiddly to use than on most other small desks. The one downside of the channel layout is the closeness of the solo and mute buttons to the channel routing switches, which isn't helped at all by the fact that that they are identical to look at. Maybe Spirit should colour-code these buttons in future.

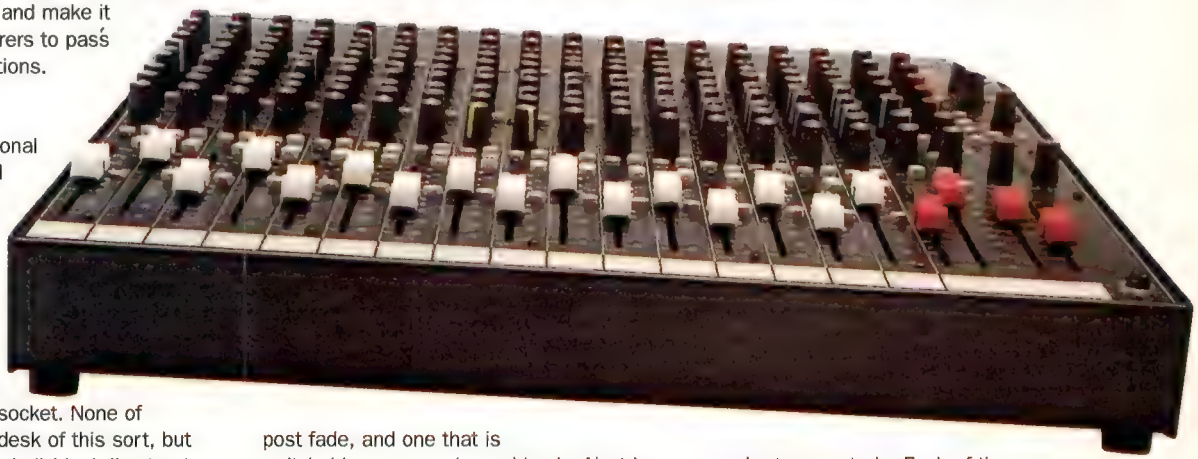
Master section

To the right of the input channel faders are the similarly-sized main and sub output faders, and a switch to route the submix to the main mix. Many people prefer a single fader for the master outputs, but in this case, where the outputs can also be subgroups during recording, paired faders are probably the best option, and that's what Spirit have gone for. Above the output faders is an impressive set of master send and return controls. Each of the four auxiliary sends, including the internal effects send, has its own master level pot and AFL button. Above their controls are no less than five sets of stereo returns. The uppermost of these is hardwired to the built-in processor, with the rest being fed by pairs of balanced jack sockets. Each return has a level control, a switch to send it to either of the output pairs, and its own auxiliary send control with a switch to select which of the sends it goes to. Returns one to three and the Lexicon return can go to auxiliary sends one or two, whilst return four goes to either auxiliary three or the Lexicon processor. Although some similar desks may offer more sends per channel, the arrangement of the sends and returns on the FX16 is the best we've seen in this class of mixer.

To the right of the returns are the stereo bargraph meters, a switch to select the solo mode (solo in place or pre-fade listen), a tape return with a level control and a switch to route it to the main mix, a trio of switches to route this and the main and sub outputs to the monitor outputs, and level controls for the monitor and headphone outputs. Above the master section is the control panel for the Lexicon reverb (see the 'Lex FX' box), and above that is a tiny panel with a switch to globally apply 48V phantom power to the mic inputs.

In use

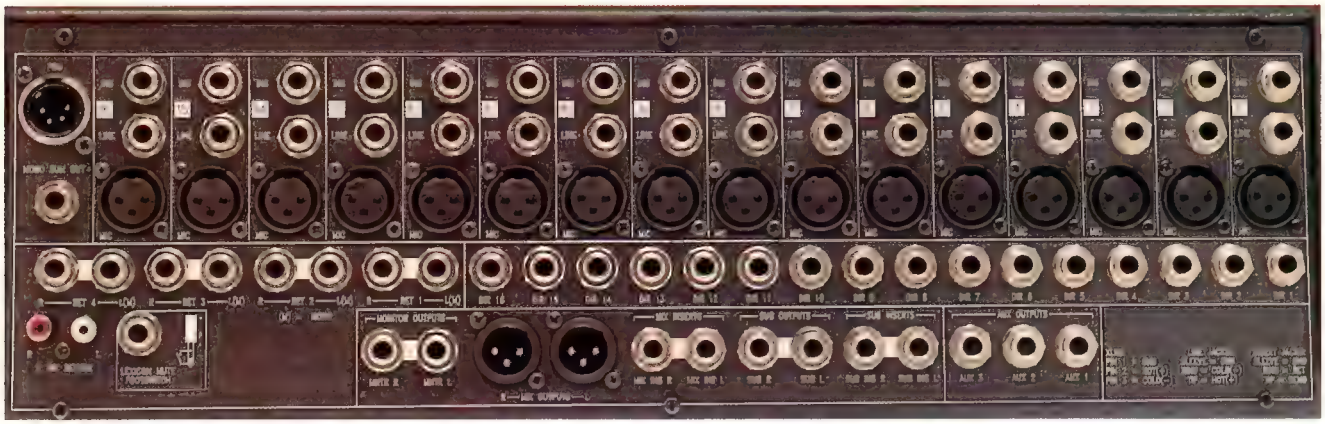
The FX16 was easy to get along with, and after a very short time we got some clear and spacious mixes together. The input gain control offers enough variation to cope with



Lex FX

Much is made in Soundcraft's advertising of the Lexicon processor built in to this desk. Obviously you shouldn't be expecting a PCM80 to be included in an £849 desk, but the processor is a worthy addition to the FX16's feature list. It has 16 algorithms, consisting of delay, echo and chorus as well as plate, room, hall, chamber and gated reverb, and various combinations of the above. Each effect algorithm has two editable parameters, which have a range of 15 to 16 steps, except for delay time, which features a 54 step range. No delay or reverb times are printed either on the panel or in the otherwise very good manual, so setting them has to be done by ear, which is often the best way anyway.

We didn't have any of Lexicon's budget effects units to compare the sound of the effects with, but we did have an example of Zoom's 1201, which also has preset algorithms with two editable parameters. Overall the units were very similar in quality, with the Zoom having the edge as far as reverbs went. When long decay times were set, the Lexicon did feature some 'cycling' in the reverb tails, which was much less noticeable in the Zoom. The built-in processor would be most useful to those using this desk in a live context, mainly because many studio users will probably already have a better-quality reverb. This is not to decry the usefulness of the built-in processor, mind. The effects are well integrated into the mixer, and having a built-in delay line is very handy.



Direct outs and comprehensive effects returns are plus points

anything thrown at it, from the rather feeble line outs of a digital church organ to a particularly hot guitar amp simulator. The internal noise from the desk itself, unlike that of the amp simulator, is impressively quiet. The EQ is very nice-sounding – adding a little top boost to hi-hats sounded particularly good, and though the lo-cut filter's and low shelving EQ's frequencies seemed a little too low and a little too high respectively, they were very effective.

The aux sends and returns were easy to use, and both the good, clear layout of the master send and return sections, and the excellent way in which the effects processor had been integrated into the desk's design

were well appreciated. It'd be nice if both pre-fade sends were switchable to post-fade, but this is made up for to some extent by the fact that you get a couple of extra returns over and above the number of post-fade sends. Using these, it's possible to bring in a couple of stereo sources that don't need EQing, and you can also use the direct outs to apply effects to single channels, which is a useful and unusual extra.

On mixdown, the 100mm faders gave an excellent amount of control over each channel's volume, and they will certainly be missed when the FX16 goes back. When recording parts to the multitrack, the FX16 was a little fiddly, with regular repatching needed. This isn't really a specific criticism of this deck though – this is the case with most similarly-sized desks. One small, albeit loud, problem was discovered when using the solo button in pre-fade listen mode. The FX16 has no separate solo volume control, so soloing a channel while working on a quiet project can have a suprising 'ejector seat effect' on the user. Those who've owned Seck 1882 desks will know exactly what this means, and they probably don't feel too nostalgic about it either. FX16 users will have to learn to turn the monitor level down before soloing a channel.

Verdict

The choice for anyone in the market for a small mixer has just got a little harder. At this price, no desk offers a range of features that will be perfect for everyone, but anyone should be able to find the desk to suit them, and the FX16 should suit many users very well indeed. Its main rivals are the Mackie CR1604VLZ, at £949, and the Allen & Heath WZ 14-4-2, at £960, and juggling these desks' features – the Mackie's better subgroups, the Allen & Heath's better EQ, the Spirit's better effects returns and so on – would be enough to give any prospective purchaser a headache. As we see it, the advantages the FX16 offers are the aforementioned returns, the channel direct outs, built-in Lexicon effects, and the pleasant, clean sound. The built-in Lexicon may not appeal to studio-bound musicians with an existing rack of effects, though it is definitely a bonus. If you rate these points highly (including the £100 advantage over its competitors), choose the Spirit FX16. ™

More from: Spirit by Soundcraft, Harman International Industries Ltd, Cranborne House, Cranborne Industrial Estate, Cranborne Road, Potters Bar, Hertfordshire EN6 3JN Tel: (01707) 665000 Fax: (01707) 665461

Spec Sheet

Inputs:	16 mono channels, 4 stereo aux returns, 1 stereo tape return
Outputs:	3 aux sends, master stereo out, sub stereo out, monitor stereo out, summed mono out, 16 individual direct channel outs.
Distortion:	0.009% at +14dBu, 1kHz
Equalisation:	Hi shelving: 12kHz +/-15dB *Mid sweep:* 240Hz to 6kHz +/-15dB Q=1.5 *Lo shelving:* 60Hz +/-15dB
Lo cut filter:	100Hz 18dB per octave
Frequency response:	20Hz to 30kHz <0.5dB any mic/line input to any output
Dimensions:	(without rack ears) 148 x 442.5 x 443.6mm (10 rack units)
Weight:	8.3Kg (including power supply)

SPIRIT FX16

WHAT WE LIKE

- Long-throw faders
- Good integration of effects processor
- Very quiet

WHAT WE DON'T LIKE

- External power supply
- Mute, solo, and routing buttons easily confused
- No solo level control

OVERALL

Well-specified, easy to use, and comes complete with Lexicon effects. The direct outputs, comprehensive effects returns, and price all blow raspberries at the competition.

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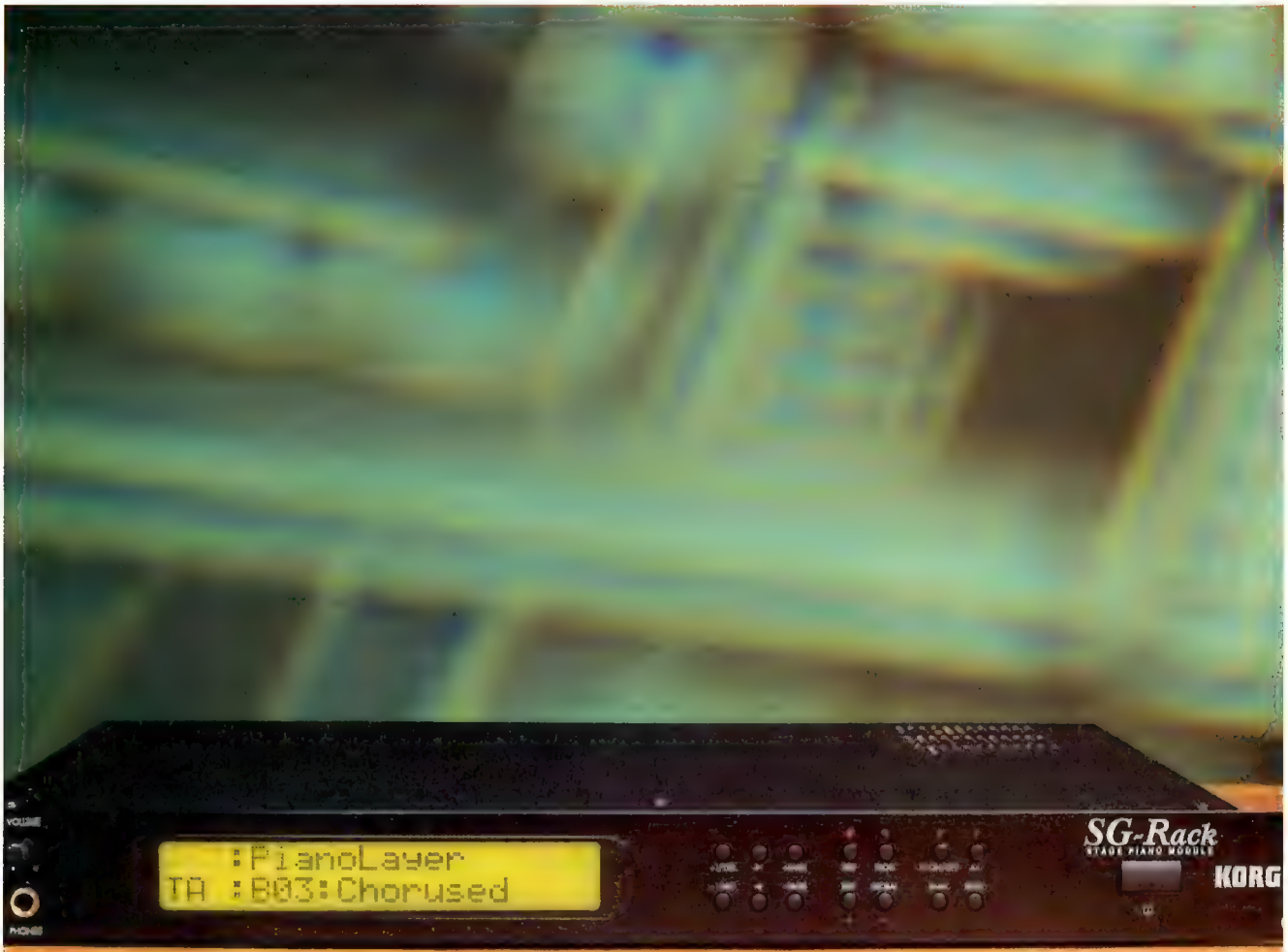

KORG SG RACK

Pack some great piano sounds in a rack and you have an essential item for any studio. Chris Kempster tunes up Korg's latest SG module...

Piano Module £699

The piano continues to be an important element in many strands of contemporary music, so any module that packs 24Mb of quality piano and keyboard voices in a 1U rack is going to be of interest to many studios.

The SG Rack is the module version of the recently launched SG Pro X stage piano, which itself is a descendant of the original SG1 sampled piano. The SG1 was a particular favourite with performing keyboard players, offering a weighted 88-note keyboard combined with a rich and dynamic piano sound. This tradition is maintained with the SG Pro, which is definitely a player's instrument.

Unlike many piano modules that are 1/2U, sit-atop-your-keyboard type things, the SG looks the business in its full size 19" racking outfit. The rear is as you would expect, bare but for a few holes concerning themselves with audio (left and right jacks), power (Euro connector) and MIDI (In, Out, and Thru). The front is pretty minimal too, with a few dainty buttons over to the right, headphone jack and volume pot to the left, and dirty big bastard of a backlit green LCD slapped across the middle. These big 'ol screens that all the manufacturers are going for at the moment are just the job when you're in a dark studio (or on an even darker stage). The name of your favourite patch can never be big enough.

Internals

The guts of the SG Rack are every bit as impressive as the skin, with 24Mb of PCM samples providing the raw material for the 64 different sounds on offer. This is a fair amount to play with, and should result in some rich and extremely agreeable timbres (be patient, you'll find out in a minute).

Polyphony is good at 64, though to be fair any less would have the performing piano player feeling a little nervous (those unfortunates who have experienced 'premature note cutoff' identify with this). As with most of Korg's sound generating products these days, the effects are particularly impressive (see separate box), and will turn on and off at the press of a button... literally.

The basic operating structure is simple enough: 64 programs in four banks of 16, with a mixture of acoustic pianos, electric pianos, organs, strings, basses and synths in each bank. You can edit all the sounds to a small degree, with Brightness, Attack, Decay, and Release parameters the most useful. You can also adjust Key Touch (how much the velocity changes the volume and tone of a sound) and the depth of the two effects modules.

If you want to layer two sounds, or split them across the keyboard, you should go directly to Performance mode (do not pass Go, do not collect £200!). In the old days, you'd usually layer up sounds because they were too weak on their own, but this isn't a problem for the SG, or indeed most contemporary instruments. More likely you'll be playing live and want a string sound and a piano sound split across the keyboard (unless you're Richard Clayderman, in which case you play them together, with a white rose in your lapel... in soft focus).

Basically you've got all the parameters here to get the Performance exactly how you want it. Choose your two Programs first, then set their levels, their panning, the range on the keyboard, and even the velocity curve. By being able to specify minimum velocity (p), maximum velocity (f), and the curve that joins them, you can get a wide range of responses, hopefully one of which will be suitable. You can set the

Effects

On nearly all of their recent synths and modules, Korg have gone to town on the built-in effects. The Trinity set the standard with its sophisticated master and insert effects, and the new TR Rack is even more powerful. There are two effects units in the SG, connected in series. The same 11 effects are available to both FX1 and FX2, though FX1 has a bonus effect: HyperEnhancer.

There's a good number of adjustable parameters for each effect. Reverb, for example, has Time, Hi damp, Pre Delay, early Reflection, EQ Lo, EQ HI, and Effect Depth to tweak. Impressive for a piano module!

The effects are geared towards keyboard instruments, hence the presence of Overdrive and Rotary Speaker for the organ sounds, AutoPan, Stereo Delay, and Chorus for the electric pianos, and Stereo Flanger for the clavinets.

Here's the full list: Reverb, Early Reflection, Stereo Delay, Stereo Chorus, Stereo Flanger, Overdrive, Stereo Phaser, Rotary Speaker, Auto Pan, Wah, Flanger-Delay, Hyper Enhancer.

The SG Rack: it's pretty on the inside, too

playing response in either a Performance, or in global mode, which is where a lot of other routine stuff like Master Tune, Transpose, MIDI channel, and MIDI data Dump resides. Okay, enough of this rubbish, let's get onto the fun bit...

The sounds

The standard SG sound, Concert, is rich, warm, clear and with a superbly rounded bottom end. At the top you get those lovely resonances that good grand pianos give, and the traditionally 'difficult' octave above middle C is as assured as any affordable model on the market. The ultimate judgement on an instrument is whether you sit and play for hours, or get bored after a few minutes. The SG passed this test with flying colours. Stick a reverb on Concert and you're into Orbital ambient territory, stick a longer reverb on and you're Keith Jarrett.

Studio Piano is a variation on Concert, only brighter, but it still retains the great dynamic feel of its more mellow friend. Dance Piano is much more chunky, with a different velocity curve taking much of the dynamics out of the sound. This would go particularly well with a fast, quantised sequencer part. The best acoustic piano is Bright, which is a lowdown blusey sound. If you play blues, boogie, ragtime or R&B, you'll be on this one for hours. Likewise if you do house or techno.

The SG Rack isn't just about pianos though. Korg always do good organs, and this is no exception. With its built-in rotary effect, the Rack produces some crackers, like SGX Organ (breathy and dirty), CX-3 Organ (Korg's own classic), and Full Organ (for that funeral vibe). The electric pianos here are just gorgeous. Sly and the Family Stone's 'Family Affair' will come to life when you dial up Wurly EP, and Classic EP makes you want to rush out and see *Boogie Nights* one more time. The strings are also seriously rich. They have the same warmth and depth that is characteristic of the acoustic pianos, even rivalling Kurzweil's legendary sampled strings.

The one glaring omission is the absence of 'real' brass. If a major target of this unit is the gigging keyboardist, then your basic sounds are always going to be acoustic piano, electric piano, Hammond, strings and brass. Well, we've got the first four, but aside from some cheesy synth brass, there's no representation of the last category. It's likely that Korg ran out of sample ROM, and decided that brass was the least essential of the sounds there. I can't help thinking that it would have been better to drop the bass sounds, or some of the synth programs. Shame.

Spec Sheet

Tone generation method:	AI²
Polyphony:	64 voice (mono prog)
	32 voice (stereo prog)
Waveform memory:	24 Mb
Programs:	64
Performances:	64
Effects:	Two digital multi-effects units
Effect types:	Effect 1 (12 types), Effect 2 (11 types)
Outputs:	L/Mono, R, Phones
MIDI connectors:	In, Out, Thru
Display:	20 character x 2 line backlit LCD
Dimensions:	19 (w) x 10.40 (d) x 1.75 (h) inches

Verdict

If you buy this unit for the acoustic piano sounds alone, you won't be disappointed. Korg's SG piano has always been among the pick of the crop, with its rich, bright, and dynamic sound – and the SG Rack is better than ever. Add to that some good organs, strings, and electric pianos, along with some quality effects, and you have a module that'll be a useful addition to any studio rack.

More From: Korg UK Ltd, 9 Newmarket Court, Kingston, Milton Keynes, MK10 0AU Tel: 01908 857100 Fax: 01908 857199 Email: info@korg.co.uk

KORK SG RACK

WHAT WE LIKE

- Gorgeous acoustic piano sounds
- Sophisticated effects
- Large LCD

WHAT WE DON'T LIKE

- No 'real' brass

OVERALL

An excellent module to have in the studio rack, though live performers may find the lack of brass sounds restrictive.

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Pro-2000 optional extras: 1U rackmount kit, polyphonic DCB port, KADI/Wasp port Just £229.95

The Pro-4 can run up to 10 instruments & has features similar to PRO-2000 above, but for 4 monosynths. It includes 4 LFOs & 8 auxilliary CVs and a polyphonic mode, extensive control via MIDI sysex, also DCB, KADI & Wasp ports fitted as standard. Din Sync 24 & clock outputs, 1U rackmount case, Out & Thru sockets and much more. Now includes 4 channel Hz/V card as standard ! £499.96

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YAMAHA MD8

8-Track MiniDisc Recorder £999

Squeezing eight tracks into a space where only four previously existed, the Yamaha MD8 boldly goes where no MiniDisc has gone before. Matt Overton thumbs a lift...

It is a tribute to the penetration of new technology that today you have to preface the term 'multitracker' with your desired choice of media. Five years ago, it meant nothing other than analogue tape. Nowadays, the dilemma for most is not whether to go digital, but whether to choose MiniDisc, tape, magneto-optical, or hard-disk.

From a purely aspirational point of view, many of us would like to choose the latter route. There is nothing quite so alluring as the three words 'hard-disk recording,' and what they represent: complete control over audio editing. Companies have been quick to recognise this, releasing models like the Fostex DMT-8VL and Roland VS-880. However, there is fantasy and reality. The reality is, unfortunately, that it's often a right pain in the arse to back-up the data on your hard disc to a ZIP or DAT drive before you can start work on a new song.

Overview

It's for this reason alone that the MD multitracker has proved to be so popular with self-producing/self-engineering musicians. You have all the advantages of working with digital audio – copy, cut, paste, move – albeit with the quality slightly affected by ATRAC compression (see box), together with the convenience of compact cassettes, where a new song means a new disc. It's the classic 'best of both worlds'.

The MD format was anticipated to be an alternative to CDs. Manufacturers saw that MDs could be promoted as a low-cost entry-level method of mastering. Around two years ago, MD multitrackers became a reality, simply by manufacturers spinning the disc and writing twice as fast as on a mastering device to get double the capacity. So guess how Yamaha managed to get eight tracks on the MD8? Yep, by spinning the disc twice as fast again. But the MD8 is more than just an MD4 with eight tracks...

Mix-bits

Yamaha have taken this opportunity to upgrade the mixer. Though functional, the MD4 was spartan to say the least. In a nice touch, a button now appears under the gain knob on channels 1-8 so you can flip between the input and cue controls, the

latter having their own level and pan settings. The EQ now has a mid sweep, giving you ±15 dB between 250Hz and 5kHz. The Pan and EQ knobs also have centre detents. There are two auxilliaries, and a quick check of the block diagram in the back of the manual reveals both of them are set as post-EQ, post-fade.

You can assign a channel to one of the four groups (and so to one of the eight record tracks). This, together with setting up the edit points, or markers (discussed below), is about the only time that someone familiar with multitrackers will have to consult the routing section of the manual, and even newcomers won't find it too much of an ordeal. First, select between the group 1/2 and group 3/4 busses, then use the pan to select odd numbers (left), even numbers (right), or both (centre)... Easy.

There's more changes around the back. Channels one and two feature balanced inputs, with both switchable +48V phantom-powered XLRs and jacks, and the welcome inclusion of insert points. The remaining six mono channels are all balanced phone jacks, and there are two stereo line inputs. Track direct outs are provided to connect the MD8 to a larger mixer – useful if you intend using the unit for basic tracking. With no disc loaded, direct outs 1-4 output the signal of groups 1-4 should you want to use the MD8 as a sub-mixer.

A well-adjusted mixer

All this comes together in the master section. The stereo inputs can be assigned to groups or sent to the stereo buss for mixing, while the cue mix to stereo switch gives you a total of 20 inputs during mixdown. Four types of monitoring are possible on the MD8: the cue buss for punch in/out; group busses for tracking; the stereo buss for mixdown; and two-track in for confidence monitoring. The stereo fader, like the others, has 45 mm of travel.

Public transport

The display and transport sections of the MD8 also show improvements over the MD4. Pausing to reflect that if the disc could be loaded from the side you'd have more room for discrete metering above its seven levels, the display nevertheless is straightforward and easy to read. The utility button allows you to alter its brightness over five steps, and choose whether you want peak hold or not. With no disc loaded, the MD8 forgets it's a recorder and displays group signal levels.

One aspect brought over from the MD4 is the way the display combines with the transport controls for selecting the record track. For the MD8 this is more important since you have eight tracks and only four groups, so group one can be recorded on track one or five, and so on. If you want to record eight tracks at once, you have to skip the groups and record directly, so channel one would record on track one. The record select buttons sit underneath the display, which also reflects their status.

The control buttons have been rearranged to reflect prominence and usage, and the MD8 now sports a combined cursor, shuttle, and data dial, like the Sony MDM-X4 and Tascam 564. When the MD8 is stopped or paused, you use the central data dial to move through the song in frame steps, and the outer cursor shuttle to move through the song at high speed. During playback, the shuttle can be used to cue and review, from half-speed through to 32-times playback speed. These functions have proved to be very useful on both the Sony MDM-X4 and Tascam 564, and it is great to see them on the MD8. In other modes, the central dial can be used to select and set parameters, while the outer can select items on the display.

The introduction of these controls means that the rewind and fast-forward buttons have been done away with. Instead, the song search buttons have been given greater prominence. The other buttons in this section are used to set more advanced functionality and control over the transport. This includes automating the punch-in and out points, A and B repeat points, and 12 markers. Markers are a key way of moving around, especially with MDs. It means that jumping around is almost instantaneous. However, it does take a bit of time to get used to this side of the MD8's operation, not least that you can construct a complete song from a cue list of non-sequential markers.

The MD4 had just a single MIDI Out, but the MD8 has a full set of MIDI connections. When synchronising using MIDI, the MD8 acts as the master and can transmit both MIDI Time Code and MIDI Clock. Running under MIDI clock, you can programme a tempo map with 26 tempo and meter changes per song. The MD8 can be remotely controlled using MIDI Machine Control. There were no problems discovered with any form of synchronisation.

In use

The MD8 was used over a weekend to put some radio advert concepts together. Although a lot of the audio could have been run live, we made a decision to record some parts to see what effect the MD8 would have on compressing the signal and to free up some of the equipment for real-time control. In addition, three tracks were used for miked audio: sung vocals, a voice-over and some 'real' sounds from around the house.

The mixer coped well with a wide variety of sources, from fairly unrestrained banging to close-miked breathy singing, along with the usual samples, modules and effects.

The origin of the species

Darwin always reckoned that competition was good for the survival of a species, and there's no doubt that the fledgling MiniDisc multitracker market was given a boost by the availability of three machines from three different manufacturers. In a classic piece of self-preservation, each model managed to establish a niche for itself and so ward off the predatory advances of the competition.

First to crawl out of the primeval soup was the Yamaha MD4 (reviewed in *The Mix*, September 1996). As events unfolded, the MD4 proved to be the entry-level machine for the market, with its eight inputs (though no XLRs) and one auxilliary send. However, its lack of complex facilities means that it is easy to use, and it has found favour with those who want digital recordings without additional functionality. Yamaha, perhaps mindful that the MD8 is going to sell like proverbial hot cakes, has recently reduced the price of the MD4 from £899 to £699.

The Tascam 564 followed and it was a different affair altogether (reiewed in *The Mix*, September 1996). The unit is well specified, with 12 inputs (four XLRs, four stereo), two auxilliaries, and a three-band EQ with swept mid. However, it is the other additions – that locators could be named, the jog/shuttle wheel and S/PDIF digital output – that has helped it to become the best-selling MiniDisc multitracker. Its RRP is still at its launch level of £1,099, though the 'street' price means that you can often pick up one for around the £900 mark.

Despite Sony being the inventors of the format and the first to announce a prototype, the MDM-X4 was the last model to be released (Reviewed in *The Mix*, March 1997). Rather conveniently, the unit fits in between the Yamaha MD4 and Tascam 564 in specification and price. It features ten inputs, two of these being XLRs, with two aux and a three-band EQ with sweepable mid. Two functions are particularly noteworthy: you can copy tracks individually, and record to audio MiniDiscs (like the MD8). HHB, the distributor of the Sony MDM-X4, has reduced its price to £799, though this is often discounted to £599.

When asked to comment about the launch of the Yamaha MD8, representatives of HHB and TEAC couldn't confirm that eight-track successors were being planned at this time, though only the naive would think that Sony and Tascam won't respond in some way. With recent unveilings from Akai, Fostex, Korg and Roland, it seems that hard-disc multitrackers are fighting back against the popularity of the MiniDiscs.

More from:
HHB (Sony): 0181 962 5000
TEAC (Tascam): 01923 819630

Tracking ATRAC

The hi-tech recording world loves its acronyms. ATRAC stands for Adaptive Transform Acoustic Coding. It means that you can cram 37 minutes of four-track audio onto a disc you could easily lose in your pocket. If you want to record the same onto a hard disk, you'll be looking to fill around 800 Mb – equivalent to over 500 high-density floppy disks.

While that saving alone is impressive, it should be pretty clear that you don't get that sort of figure from straightforward compression. ATRAC is a lossey compression, though cynics like to think of it as lousy since about 80 per cent of the signal is removed during recording. While this doesn't manifest itself in any obvious way, low-level signals do tend to blur somewhat, while high-level complex signals tend to sound a little harsh. Repeated bouncing seems to accentuate these shortfalls, though it's unlikely that you'd be doing that much of this with the MD8.

Blind listening tests by audiophiles have shown a liking for cassettes over MDs – something to do with analogue warmth. However, for home recordists, the results from MD multitrackers far outperform those from their cassette cousins. The sound from hard-disk multitrackers is a further improvement since all the signal is being captured, and you'll know it when you have to back it up...

The automated punch-in facility was great when roaming the house; otherwise it would have been a case of recording long takes to the DAT machine, listening to the best ones, and dumping them over to the sampler. That said, the 'best take' function of the Tascam 564 – the ability to record up to five punch-ins and then chose the one you want to keep – was sorely missed.

As you might imagine, there was a fair bit of deleting, copying and moving of audio going on. Since we were working to a brief, accurate timing was of the essence. The adjustable pitch function was used to speed up the pace of one piece after a longer time than was necessary was spent working on syncing a drum loop. Why bother going through the whole procedure again when 1.5 seconds could be shaved by increasing the pitch by five percent? And a voice-over was made deep and sexy by a bit of retardation. It didn't sound perfect – this isn't time-stretching after all – but it served its purpose.

On the mixdown, the EQ proved to be competent, if not exactly musical. A silent song of designated length was set up, and was used as a spacer between the different ads, compiling a program of songs in the process. The output of the MD8 went into a compressor/gate and then into a DAT recorder. The net result was something that sounded like a demo. That may have been due to time constraints, but even so, don't expect a perfect, distribution-ready master.

Give us a twirl

Verdict

The MD8 has many positive aspects. It would have been easy for Yamaha to have swamped the unit with additional functionality, but some consideration has been given to the way in this has been accomplished; it is a relatively straightforward task to graduate from another MD multitracker or even from cassette. The fact that MD4 songs are compatible with the unit, and there are so many similarities between them, makes it almost a foregone conclusion for MD4 owners wanting to upgrade – more tracks and a significantly improved mixer.

There's not much wrong with the MD8. Most of the criticisms that have been raised are minor ones. The MD8 does not sport any kind of digital output, something which the Tascam 564 does feature. Likewise, the 564 can name markers; when you're working on a song, it's a lot easier to move between 'verse', 'chorus' and 'bridge' than it is between 4, 7 and S.

It's also interesting to note that the MD4 came with one free MD. Admittedly, this was at a time when they were selling for anywhere between £20 and £25. Now, Yamaha-Kemble are knocking them out for £18.79 for five. Most people don't expect to get a free cassette when they buy a multitracker, but seeing that you need to use MD DATA discs for multitrack recording (MiniDiscs can be used for stereo recording), the inclusion of one would quell that feeling of disappointment you get when you arrive home with the unit, only to realise that you don't have anything to record onto.

The MD8 has taken the core component of the MD4 – ease of use – and applied a large dollop of technology in the form of another four tracks and a better mixer spec. These combine to make the MD8 far more than two MD4s for far less than twice the price.

For people who've embraced MD multitrackers, yet who want the flexibility of eight tracks, the choice is clear. For the rest of us, watching the battle develop between MD and second-generation HD multitrackers, it's less certain. ™

More from: Yamaha-Kemble, Sherbourne Drive, Tilbrook, Milton Keynes, MK7 8BL
Tel: 01908 366700 Fax: 01908 369229
Web: www.yamaha.co.uk.

Spec Sheet

RECORDER

Recording medium:	MiniDisc with ATRAC compression
Sampling frequency:	44.1kHz
Frequency response:	20Hz-20kHz
S/N:	96 dB
Tracks:	8 independent simultaneous record/play
Recording time:	148 min (mono), 74 min (stereo), 37 min (4-track), 18 min (8-track)
Locate:	Start, end, plus 10 markers per song
Cue and review:	0.5x, 2x, 4x, 8x, 16x, 32x play speed
Track editing:	Track copy, part copy, track erase, part erase
Song editing:	Copy, move, divide, combine, renumber, erase, name

MIXER

Inputs:	2 mic/line in (balanced XLR/phone jack), 6 mic/line in (unbalanced phone jack), 4 line input, 2 inserts, 2-track in
Outputs:	Track direct out 1-8, stereo out L/R, monitor out L/R, 2 aux send
EQ:	3-band, with sweepable mid

GENERAL

MIDI:	In/Out/Thru
Synchronisation:	MTC, MIDI Clock, MMC
Dimensions:	484 x 102 x 412 mm

YAMAHA MD8

WHAT WE LIKE

- Eight tracks on a MiniDisc
- XLR inputs and insert points
- The improved mixer spec

WHAT WE DON'T LIKE

- Markers can't be named
- No digital interface
- Interface could be more straightforward

OVERALL

With 8-track recording is becoming the norm, the Yamaha MD8 retains the convenience of the MD format and the simplicity of operation.

Signex

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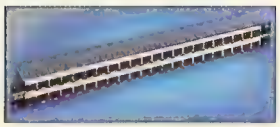

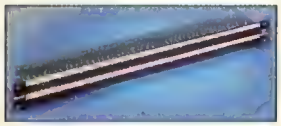

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- Rigid lateral PCB construction
- Slide-in ident card system

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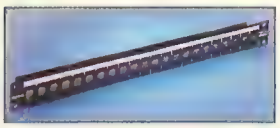
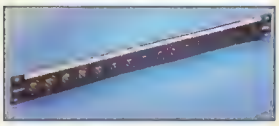
- Can be used for In, Thru or Out
- DIN or solder rear connection
- Rigid lateral PCB construction
- Slide-in ident card system
- High quality, unbeatable value





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- High quality, unbeatable value

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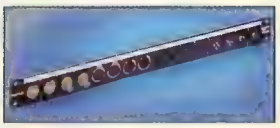

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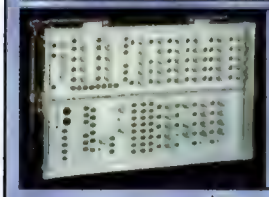

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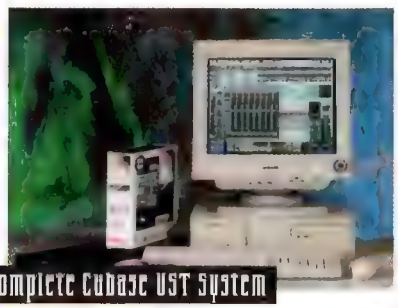

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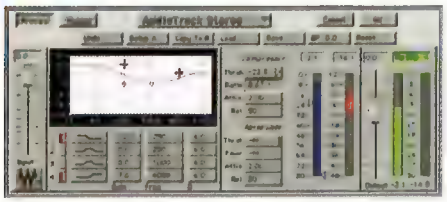

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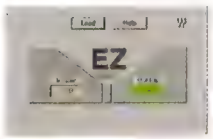

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THE MIX EDITOR'S CHOICE

DRAWMER MX 40

Drawmer have added another unit to their affordable MX range, this time a quad gate. Trevor Curwen puts it through its paces...

Quad Punch Gate £382

There's a reassuring familiarity about Drawmer processors, with their black, white, and yellow panels. They are instantly recognisable and found in just about every studio. Now Drawmer have changed that colour scheme for their new lower cost MX range, in much the same way that Focusrite introduced their Green series.

Drawmer have cut manufacturing costs and branded the new MX range with a silver and black colour scheme, aiming to provide that same sonic quality but in a lower priced box. The MX 30 dual gated compressor/limiter was the first product released, and now we have the MX 40 punch gate, which will be followed in due course by the MX 50 dual de-esser and the MX 60. Accurate details of the MX 60 were not available at the time of writing, but it will probably be an all-in-one channel strip processor.

Packing a lot into a small package, the MX 40 punch gate is a four channel noise gate and is the first unit to incorporate Drawmer's new proprietary Peak Punch circuitry, which has been designed to add dynamic enhancement to the leading edge of drums and percussive material. Audio connections on the back panel, with the exception of the jack socket for key input, are on XLR's. Power is supplied on a standard IEC lead.

Overview

Drawmer's traditional approach of using two filters – a high pass and a low pass – on their side chain filter circuitry has, in this case, been eschewed in favour of a single trigger frequency knob. This is a bandpass filter with a one octave bandwidth, and a centre frequency variable between 50Hz and 8kHz. The idea is to zoom in on the frequency required to open the gate, as the gate will only react to frequencies within that one octave band.

A key listen switch, with its own LED, enables monitoring of the selected frequency band. As this switch is latching, the key listen channel can perform basic EQ functions by using the trigger frequency

Four channels of quality gating in a 1U rack space

knobs as a tone filter, if gating is not required. For normal gating functions the side chain filter would be switched in, but you can bypass it if circumstances demand it, such as for broadband control signals where the filter might discount important trigger information.

External keying is also possible with the MX 40. The external switch, again with a red LED to show its position, allows the dynamics of an independent signal (through a rear panel jack socket) to open and shut the gate. However, there is only one key input covering all four gate sections, so if all the channels are set to external, the same external signal will open all the gates. If no external key is connected, you can opt to use channel one's audio as the trigger source for the remaining three gates.

The threshold level, below which gating starts to occur, is set for each channel by a threshold control, variable from -60dB to over +20dB, where the gate is always fully closed. Three LED's, like a set of traffic lights above the threshold control, show the status of the gate: red for closed, and green or amber for open. When the input signal falls below the threshold, the green LED goes out and the amber one fades over the duration of the release time. You can always see the status of the gate at a glance.

A single release control, variable from 10mS to 40mS, replaces the Drawmer 201's three way array of attack, hold and release control. Clever logic circuits vary the gate hold time automatically according to the release control setting, thus preventing gate 'chatter' when signals are on or around the threshold level. The pre-set attack time is fast, although Drawmer do not state the actual time. With the peak punch control switched in, the attack time is near zero and the circuitry adds very short term dynamic expansion (6dB for 10mS) to the leading edge of percussive material, giving more definition to the beginning of a gated sound.

The range facility, which determines how much signal passes through a closed gate, is not fully variable on the MX 40 but takes the form of a two-way switch. The -90dB setting silences the signal completely when the gate is closed, the -20dB setting allows an attenuated signal through the gate, which with some program material, can have a more natural effect.

The linking buttons work with channel pairs 1, 2, and 3, 4. The lower numbered channel in each pair becomes the master when the channels are linked, and the control signal also comes entirely from that channel. There are individual bypass switches for each channel.

Spec Sheet

Audio measurements at 4dBu operating level	
Input impedance:	20kΩ (balanced)
Key input impedance:	20kΩ (unbalanced)
Input CMR:	> -40dB
Max input level:	+21dBu
Max key input level:	+21dBu
Output impedance:	50Ω (balanced)
Max output level:	+21dBu
Bandwidth:	10Hz to 22kHz (-1dB)

Verdict

Drawmer provide high-quality workmanlike tools to do a specific job, and this gate follows in that fine tradition. Many of us rarely work without recourse to a Drawmer 201, so the reduced set of controls on the MX 40 might make you wary at first. However, the unit proved its worth in the review. There are some things it can't do, but the things it can do, it does well. Four channels of quality gating in a 1U rack space for less than £400 has to be a bargain, and for someone with a small studio, it's an ideal buy. ™

MX40: bringing the Drawmer name to a wider audience

Next Of Kin

The MX 40 has an esteemed family of products behind it. Below is a quick description of the two Drawmer 'classics' closest to the MX 40.

DS 201
Dual Noise Gate £405
Probably the industry standard gate, seen in just about every major studio. Separate high and low frequency filters; rotary knobs for attack, hold, and decay, and for range, which is continually variable from complete silence to full signal. Also has ducking mode.

DS 404
Quad noise gate £617
Probably the MX40's nearest relative. Four gates in one box with separate high and low frequency filers and switchable 'hard' and 'soft' gating modes. Versatile linking mode – all four channels, any adjacent three channels, or two stereo pairs can be linked.

In use

On recorded drums the MX 40 was able to successfully separate kicks, snares and toms from the rest of the clutter without too much effort. If you're used to using the 201's dual filter side chain, the single filter in the MX 40 may take some getting used to, but in practise, it actually did the job just fine. Perhaps the single filter approach gives a little less control but on the wide variety of material used in the review, it really made no difference.

Peak punch worked well on adding some hard front end punch to bass drums, but did not work on all sounds. It's a very similar feature to that found on the new BSS Opal gate: extremely useful, but you wouldn't want to use it all the time. As with the single filter, the lack of hold and attack controls made very little difference to general gating tasks, and the automatic hold time circuitry built into the release control seemed to work very intuitively. Of course, the other bonus here is the ease and quickness of setting up with fewer controls. External sync mode had no problems chopping up a signal using an external staccato sound source. All in all, the thing done good!

More from: Drawmer Electronics, Coleman St, Parkgate, Rotherham, South Yorkshire, SG2 6EL Tel: 01709 527574 Fax: 01709 526871 Email: sales@drawmer.co.uk Website: www.proaudio.co.uk

DRAWMER MX40

WHAT WE LIKE
- XLR inputs for better quality
- Peak punch is very useful facility
- Compactness: four usable gates in 1U rack space

WHAT WE DON'T LIKE
- Limited envelope controls

OVERALL
A cost-effective and compact gating package. What it lacks in control, it makes up for in quality.

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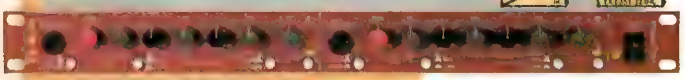

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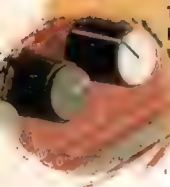

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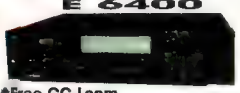

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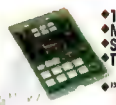

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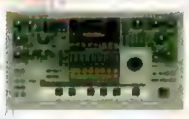

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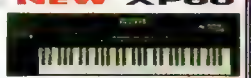

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DBX MC6

Small, rounded, and not too pricey. Paul Mac finds out whether the MC6 deserves your attention

Compressor £100

Maybe compression has become stagnant. Maybe you've already picked the compressor that you're going to use for the rest of your life. After all, it just compresses, right? Of course not. Variables from basic noise levels to the complex issue of sidechain circuitry play their part in ensuring that manufacturers will always have room for improvement. Don't forget that valve-driven compressors are still being improved upon, so solid-state ones have a long way to go.

dbx have been at the heart of the dynamics processing market for over 25 years now, with industry standard VCAs to their name, and a long list of popular products recognised as much for reasonable price levels as high quality. They've taken that one step further with the MC6 by releasing one of their lowest-priced processors to date, and including all of the technology that makes dbx a little different.

Overview

The first thing to notice is the box itself. This is no rack mount, but a shallow plastic case, small enough to fit on your hand, with controls mounted on top. It has to be said that materials and weight don't inspire thoughts of quality, but you should never judge a compressor by its case. So why is it this shape? Why not go for a 1/2 rack unit, like the nano series boxes from Alesis? The MC6 has good-sized faders, and several buttons, a combination that never works very well on smaller rack units. dbx must have done some miniature magic to fit everything in.

The two mounting suggestions are desktop and amp top (of the Marshall kind).

A friendly box for guitar recording or general studio compression

The latter is supported by a metal bracket supplied with the unit, and for the desk, you get stick-on rubber feet. There's more control than you'd get on the average guitar accessory, and the computer-based users might tolerate an analogue compressor that could sit next to the mouse mat.

But overall it's what you can do with the processor that counts. dbx have made sure that their trademark features are included, most notably, True RMS Power Summing. The first part, 'True RMS', refers to the conversion of audio into a control voltage. In dbx-speak, true RMS means that the average power of the input signal generates the sidechain voltage, which apparently is closer to human hearing, and so is claimed to make for a better sounding processor.

The second part, 'power summing', refers to the way that stereo signals are dealt with. For example, you might just add left and right inputs together, convert the result into a control voltage, and use that. dbx point out that inevitable phase imbalance between left and right would make this a false conversion. The advantage is that you only need to generate one control voltage. The way the MC6 deals with this problem is by adding the 'True RMS Power' of left and right channels together, which gives a good picture of the total energy in a stereo input.

Apart from the obvious, one interesting arrangement is using one side of the compressor as a pseudo sidechain input. What about putting guitar or bass in one side, and a mono percussion mix in the other? The VCA reaction encapsulates both inputs, and is a subtle way of emphasising the feel in a track, or just another experimental string to your mixing bow.

Panel beater

Now you have a pedigree source for the sidechain, you need to know what control you have over it. Thankfully, not much has been missed. The space has been saved by using one set of controls for both channels. The only slight drawback of this is that you can't process two mono signals at the same time, but the summing input to the sidechain makes this almost irrelevant.

The threshold adjustment has an ample 60dB range, and is tied to the choice between hard-knee and 'OverEasy' compression. In hard-knee mode, the threshold represents the boundary between compression or no compression. In OverEasy mode, it points to the middle of the soft knee range, in other words, the middle of a gradual transition from no compression to control defined compression, which is far more subtle. The ratio control encompasses the entire compression range from 1:1 to ∞:1.

dbx have provided both attack and release faders, and an Auto mode. Auto overrides the attack and release controls and replaces them with the now commonplace program dependant adjustment. Rather than just leave it at this though, they've included two auto modes, one optimised for vocals and one for instruments. It's nice to see someone giving auto-compression a real purpose.

The last of the fader controls is output level. It's just a shame there's no input level control as well. If you don't run the MC6 a little hot on the line input, where the compression gets a bit heavy, you end up cranking the output, getting little reaction in the output meters, and raising a previously decent noise floor. Otherwise, everything is fine.

The remainder of the pushbuttons allow for bypass and input or output meter assignment. There's also a line/instrument level selection on the back panel.

In use

Whether you want to use the MC6 just for guitar recording or as a general studio compressor, you'll find it a friendly box. All the controls have wide ranges, and having faders rather than knobs is more graphic. In fact, the whole unit is graphic – a good number of LEDs and easy-to-read metering takes care of that. Very fine adjustments are difficult, probably because of the adjustment ranges and fader sizes, but no-one is pretending that this is a £1000 compressor in a £100 box.

The sheer number of controls and choices, especially the auto modes and OverEasy switch, make it versatile enough to be a transportable compressor for a number of studio jobs. But it's not really a mastering machine, as the compression is noticably more transparent on single instruments than group or main mixes, and it's not too difficult to start pumping.

There was hardly any noise in the review machine until we pushed up the output control to the limit, so you have to make sure that input levels are adequate. Other than that, the sound was certainly far better than the price implies.

Verdict

Price is the deciding factor here. The MC6 will stand up very well in a home studio environment, and has more tweaks and twiddles than many high-priced boxes. The next step up would probably be to units costing £300 or more, which is a big investment for many of us. So what's the bottom line? Well, sometimes good enough is, er, good enough. TM

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Spec Sheet

Line inputs:	+16dBu balanced or unbalanced
Instrument inputs:	0dBu unbalanced (Instrument)
Line outputs:	Balanced 2kΩ, unbalanced 1kΩ
Instrument outputs:	300Ω
Max line output level:	>15dBu (into >10kΩ)
Max balanced/unbalanced instrument level:	>-1dBu (into >10kΩ)
Threshold:	-45dBu to +15dBu, OverEasy® or hard knee
Ratio:	1:1 to ∞:1
Manual Attack Time:	Scalable program-dependent, typically 3dB/msec to 0.04dB/msec
Manual Release Time:	Scalable program-dependent, typically 250dB/sec to 5dB/sec

DBX MC6

WHAT WE LIKE

- Very, very good price
- Vocal and instrument Auto modes
- Lots of controls with good ranges

WHAT WE DON'T LIKE

- No input level control
- Noise increases with high output settings

OVERALL

A fully featured, reasonable quality compressor for an exceptional price.

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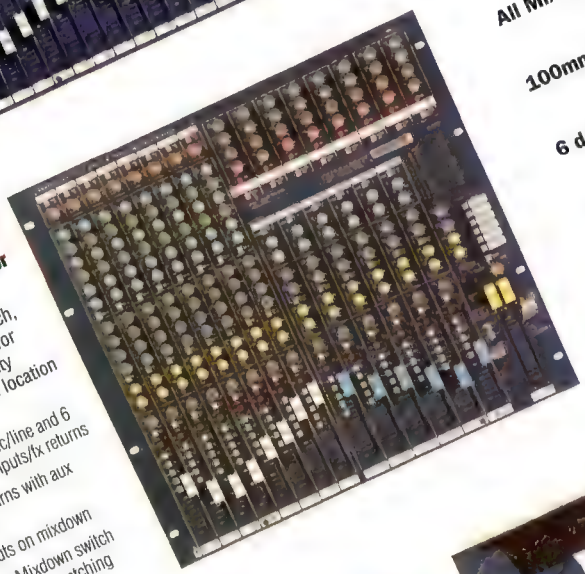

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THE MIX EDITOR'S CHOICE

TERRATEC EWS64XL

PC Soundcard £399

Ronan Macdonald, Editor of *Rhythm* magazine, wanted to take a step up in the soundcard hierarchy, so we asked him to try the new Terretec EWS64XL and tell us all about it...

Music and video games – surely two of the greatest gifts bestowed upon mankind and undoubtedly two of the most popular high-end application types installed by PC owners the world over. It must be a nightmare for soundcard manufacturers, designing systems that not only deliver the goods when it comes to increasingly sophisticated home recording studio and multimedia software, but that can also handle games running in both DOS and Windows 95 in terms of sound and, er... a working joystick port.

This all became alarmingly apparent to me recently when I finally gave up all hope of ever getting my PC's motherboard-integrated sound system (which shall remain nameless) to do everything it was supposed to. As a truly obsessive games player and Cubase user, admittedly I was asking a lot of the hapless chipset (allegedly purchasable separately for somewhere in the region of £30). There were two main problems: firstly, Cubase simply would not accept the fact that my set-up was full duplex, hated all its drivers, and occasionally seemed to forget that it was even there at all. Secondly, while the actual sound quality with games was surprisingly good most of the time, the joystick port was temperamental to say the least. While my X-Wing flew with all the grace and sensitivity you'd expect of a fictional space ship, the F22 jet fighter felt more like a JCB digger. It was all very strange, and incredibly frustrating.

So it was time to start thinking about spending some money. I knew I could solve all my problems without spending a horrendous amount of cash – about £100 would have been enough. But I wanted more than just the basics. Not for me a SoundBlaster, I thought; if I'm serious about this stuff – primarily the audio rather than games side of it – I might as well go for the best. But which one? After months of checking out the latest in soundcard technology, I just couldn't decide. Getting the right balance between decent hardware and powerful, easy-to-use software was seeming like an impossible dream.

The solution

Then, as chance would have it, I was asked to review Terratec's latest baby, the EWS64XL, for *The Mix*. My problem, quite frankly, was solved – this card did all I needed it to, and a whole lot more besides.

It may not look particularly special (apart from the rather fetching gold mounting plate), but the EWS64XL really is one mother of a card. A brief summary of its many features would look almost exactly like this: two separate stereo analogue inputs; two separate stereo analogue outputs; one S/PDIF digital input, which can be switched between coaxial and optical; two S/PDIF digital outputs; two separate MIDI interfaces; full duplex recording of up to 32 channels; sample rates up to 48kHz; an on-board digital effects processor; a WaveTable synth already packing 6Mb of memory and easily upgradeable to 64Mb; WaveTable daughter-board support; an FM synth; full games compatibility; and a joystick port that works perfectly. And those are just the basics.

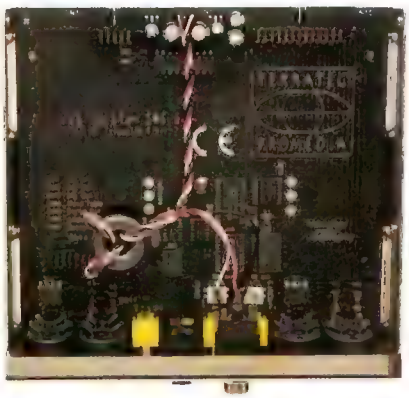
Installation is as much of a breeze as it is with anything claiming 'Plug 'n' Playability'. Once the card is placed into a free ISA slot, that crazy front panel (about which you'll find out more later) mounted in your spare CD ROM bay and all the cables connected, it's simply a matter of installing the software and restarting your machine. It takes about half an hour all told, and if there are any problems, Terratec's friendly and very helpful support staff (or indeed their website) are only a phone call (or log-on) away.

Despite my easy installation though, it's worth bearing in mind that you need to have the necessary resources available to utilise everything on the EWS64XL. This means having two DMA channels and three free IRQs. The IRQs are for the two MIDI interfaces and the synthesizer, although one of the MIDI interfaces is disabled by default, and you may never need it.

Now, about that front panel. This is essentially a more convenient way of accessing the two MIDI interfaces and various digital connections than having to go round the back of your PC to get to the card itself. Of course, it also allows space for the four DIN sockets which, clearly, were never going to fit on the card itself. Incidentally, there's also a headphone socket on the front panel... which is nice. Of course, should you have no need for MIDI interfaces, digital I/O or headphone sockets, you can just leave this nifty extra in the box.

Big bundle

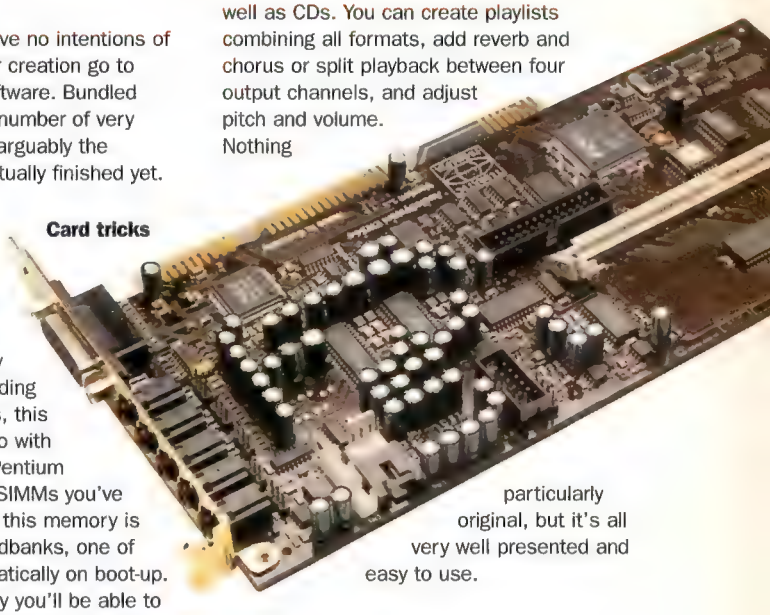
It's clear that Terratec have no intentions of letting any aspect of their creation go to waste through lack of software. Bundled with the EWS64XL are a number of very cool programs, although arguably the coolest of the lot isn't actually finished yet. As I mentioned earlier, the card comes with 6Mb of on-board memory, which can be upgraded to 64Mb using, astonishingly, a standard 72-pin SIMM. Since many people seem to be upgrading to Pentium IIs these days, this gives you something to do with one of those redundant Pentium motherboard-compatible SIMMs you've got lying around. Anyway, this memory is used to store synth soundbanks, one of which is loaded in automatically on boot-up. The idea is that eventually you'll be able to make your own GM soundbanks or edit the existing ones using the aforementioned as-yet-incomplete software: Ed!son. And I hardly need to point out the creative possibilities offered by having 64Mb of memory to store them in.



A monster of a card

Ed!son has been in the pipeline for months now, so a final release should hopefully be along soon. Until then, there's a sort of demo/preview version available in the shape of Ed!son Micro. This only lets you play around with mono samples, but certainly offers a tantalising (if somewhat frustrating) glimpse of a very promising future.

The rest of the software starts with Terratec's Media Player, which allows playback of WAV, MOD and MIDI files as well as CDs. You can create playlists combining all formats, add reverb and chorus or split playback between four output channels, and adjust pitch and volume. Nothing particularly original, but it's all very well presented and easy to use.



Card tricks

FX Panel

Things start to get really interesting with the FX Panel. Whether you want to add some flavour to your latest opus, breathe new life into that Aphex Twin CD or take Quake to the next level sonically, it's all made possible here. You can adjust the levels and routing of four digital effects: Chorus, Reverb, EQ and V-Space. The first two are self explanatory, the third is switchable between two and four-band, and the fourth... Well, V-Space is a bit of a strange one actually. Apparently it adds that elusive 3D feel to the sound, but while it certainly did something, I wouldn't really describe it as that. Don't get me wrong, I certainly liked the effect, but I'd describe it as more of a 'powering up' than a genuine 3D reproduction.

The Chorus and Reverb 'units' are very impressive, with excellent, rich performance and all the necessary adjustable settings: Reverb Time and Feedback, Chorus Delay and Feedback, and a host of preset Room and Delay programs. All in all, the FX Panel is a very impressive addition indeed.

As you would expect, the not-overly-exciting Windows 95 mixer program has been replaced by an altogether sexier and more comprehensive control panel. Here you can adjust the levels of all your various ins and outs – not to mention the volume of the beeper on your motherboard (kerrrazy!) – change the internal routing of the card, switch between MIDI interfaces and open all the other included applications. Depending on what you want to do

Easy installation

with the card (play games, record audio to hard disk or whatever) you can then load in one of several mixer presets as befits the task. Of course, you can also come up with your own mixer set-ups and save them in their entirety, or just whichever fader/knob/switch positions you need to overlay over a different set-up.

And there's still more. When Ed!son becomes available, naturally you'll need a wave editor to prepare your loadable soundbanks. Or you might just want to ready some samples for use with Cubase AV (the included cut-down version of the home studio classic). That's where Ed!son Wave comes in. It's essentially a fairly conventional wave editor, but with the addition of a direct link to the sample memory and, eventually, Ed!son. Edit your sound, hit the 'Download to EWS' button and then carry out any additional editing in the Ed!son Instruments Editor.

And that, finally, is where the software onslaught ends, apart from a few other minor administrative programs. A very impressive suite, I'm sure you'll agree, but one that's nonetheless gagging for the addition of the mighty Ed!son.

In use

Terratec have created a veritable monster in the EWS64XL. Not only is it laden down with an incredible number of high quality features (not to mention the inclusion of Cubase), but the actual quality of sound produced is staggeringly high. And thanks to the digital outputs, it stays that way through the whole production process, assuming you have access to DAT or any other digital recording format. Even the included GM soundbanks are great, and the digital effects are up there with the best.

The ins and outs of the EWS64XL

It's certainly a card with a future, too. With WaveTable daughter-board support, you can extend its synthesizer capabilities even further (see box-out). And the fact that the card's operating system is loaded into the on-board RAM when you start your PC up, means it can be updated as often as Terratec see fit, while the reconfigurable synth means the EWS64XL can be transformed into a totally different 'instrument'. In the included literature Terratec cite a few possible future examples of this, such as a virtual analog synthesizer or a Vocoder.

There are really only two criticisms I can think of with this fabulous bit of hardware. The first is that Ed!son isn't ready yet, and the second is that there are too many bugs in the software – i.e. more than none. Still, there's already been one driver and software revision, and the release of the second is imminent, hopefully with all the glitches sorted.

Verdict

With the current rate of advancement in PC technology, desktop musicians are being thrown new miracles on practically a monthly basis. The incredible power of today's music software means the home user can easily and relatively inexpensively take advantage of comparable facilities to those used by the professionals – as long as they have the hardware to go with it.

Terratec's EWS64XL is that hardware – a good quality and well-featured card that's well-suited to the small- to medium-budget PC music set-up. The soundcard market is a fast-moving business at the moment, but right now this card represents excellent value-for-money. ™

More from: Terratec Promedia
Tel: 01600 716911 Fax: 01600 716744
Email: sales@terratec.co.uk
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Waldorf on a card: yes, please!

As you now know, the EWS64XL offers support for WaveTable daughter-boards, allowing vast synthesizer expansion potential. Although details on price and availability are sketchy at the moment, the soon to be released microWAVE II by Waldorf is already looking like a very serious option. The fact that they've developed the board in conjunction with Terratec obviously bodes well for its performance.

microWAVE II is a 51/4" module that replaces the EWS64XL front panel, containing everything already on it and and a whole lot more besides. The price is likely to be roughly in the area of £400-£500, with a deal on offer for the EWS64XL including the microWAVE II instead of the front panel for around £800.

Until we actually get hold of one for a proper appraisal, here are some juicy stats for you to drool over...

- Latest digital wavetable synthesis/analog modelling
- Multi Mode with eight individual instruments
- 64 ROM Wavetables
- 32 RAM Wavetables
- 64 waves per Wavetable
- 500 waves
- Arpeggiator, syncable to MIDI clock
- Programmable arpeggiator rhythm pattern per sound
- All parameters real time controllable through MIDI continuous controller
- MicroEdit software for Windows 95
- Extended EWS driver functions with 16 additional MIDI channels

Features per voice:

- 2 oscillators
- 2 wave generators
- Noise generator
- Ring modulator
- Mixer, all levels modulatable with high resolution
- 2 multi-mode filters, connected serially
- Effects processor, with chorus effect for each sound plus: additional chorus, flanger 1 + 2, Autowah with low pass, Autowah with band pass, Overdrive, Amplitude modulation, Tempo delay, Stereo tempo delay, Modulation tempo delay
- Modulators: Stereo amplifier, fully mountable 8-time/level wave envelope with loop function, 'one shot' mode, times and levels modulatable; ASDR filter envelope; 4-time/level free envelope, bipolar, 'one shot' mode, times and levels modulatable
- Dual mode (two voices per note)
- Unisono (all free voices at once)
- Two LFOs, each with different shapes, syncable to MIDI clock. LFO 2 can be synced to LFO 1
- Modulation matrix with 16 slots
- Freely usable modifiers

TERRATEC EWS64XL

WHAT WE LIKE

- More ins and outs than should be strictly legal
- That nifty front panel
- Upgradeable memory, daugterboard support, great effects... the list goes on

WHAT WE DON'T LIKE

- Slightly buggy software
- No sign of Ed!son yet
- The manuals could have been better written

OVERALL

When the software's completely finished and Ed!son is released, this could well be the best of the current generation of PC soundcards.

“A revelation...

a reliable, bulletproof PC Workstation, outstanding value for money.”

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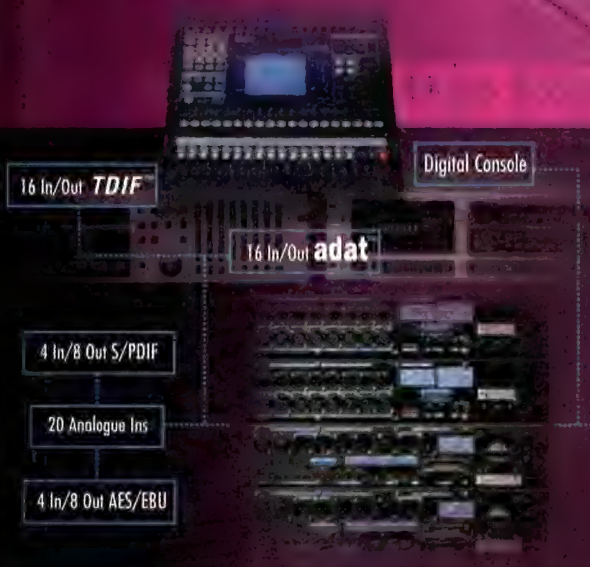

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TASCAM MD501 & MD301

The MiniDisc format is enjoying something of a renaissance. But do these new pro units from Tascam pose a real threat to DAT? Simon Young reports...

MiniDisc Recorders £899/£699

Despite being with us since 1992, when it was hailed as the digital medium to take on CDs, DATs and tapes, MiniDisc has been slow to catch on. Back then, the few machines available were generally of the portable, domestic type, with little penetration into the pro market. DAT was already well established as the mastering medium of choice, and us fussy muso types were put off by the slight quality loss resulting from the ATRAC compression process during recording onto MiniDisc.

However, manufacturers (most notably Tascam, Yamaha and Sony) have recently been pushing MiniDisc machines, particularly 4- and 8-track recorders (see Yamaha's MD-8 on page 46). On the domestic side, Sharp have introduced a range of portable, stack, and hi-fi systems, but the Tascam MD-301 and 501 models on review are are entirely different beasts: rack-mounting stereo units, aimed head-on at pro users. So do these units sound the death knoll for DAT, or does Tascam have its sights pitched elsewhere? We'll come back to that point later, but first, let's look at what these two have to offer.

Overview

Cosmetically, the units are very similar, with the same layout of transport controls sitting to the right of a generous central display and the horizontal MD loading slot. A large rotary dial on the left controls the input volume for analogue inputs, while the other smaller notched dial above the Ready (pause) button scrolls through the tracks, as well as providing the means for entering

various editable settings, accessed by the Edit/No key above it. Both machines have four display buttons, headphone sockets, volume controls, and input selector dials, though the physical locations are not the same, which makes room on the 501 for some extras. These include an analogue input balance pot, digital fader button, extra optical input, and keyboard socket.

The fader button operates a digital fade on incoming digital signals, with independent fade-in/out periods, editable in three second increments over the range of three to 24 seconds for fade-in, and six to 27 on fade out. It's a fairly brutal linear fade, with digital quantisation noise audible at low levels, before an abrupt cut-off at around -50dB, clearly showing the limits of this format at low volumes. The second optical input provides convenient access if you've rack-mounted your unit, and the IBM keyboard interface socket enabes remote direct access to transport and editing functions from a QWERTY-keyboard. This could prove useful in a live situation, where the unit may be inaccessible, either directly or with the infrared remote.

The remaining connections on both units are all round the back. On the 301, these are comprised of analogue ins and outs on RCA phonos; there's a choice of an optical socket or S/PDIF on a coaxial RCA phono for digital input, but disappointingly, there's only provision for optical output. Not only are optical cables considerably more expensive than coaxial cables, but if you wanted to interface with your soundcard or DAT, more than likely these would provide digital connections over S/PDIF, requiring an optical to S/PDIF converter.

Connections galore 'round the back

In addition to these, the 501 has balanced analogue I/Os on XLRs, and an IEC power socket, as opposed to the 301s integral power lead. A further stereo quarter-inch jack socket is provided on the 501 for remote start, either from a footswitch, or via a stereo lead between a channel insert point on your mixer to this socket – bringing the channel level up supplies the necessary voltage to trigger start, and closing the fader stops the unit. If the unit has been set to 'Incremental Play Mode', closing the fader pauses the unit at the start of the next track, or if a footswitch is attached, the unit steps through the tracks with each press of the footswitch. Again, these are very useful features for live use, but the typically sparse manual provided barely mentions them, let alone explains their application.

In use

Recording is blissfully easy on both units; select your input source and hit Record, set the input volume if it's analogue, hit Ready or Play, and away you go. You can also provide up to 6dB of cut or boost for digital recordings, which could prove useful if the source material hasn't been normalised to 0dB. Track IDs are copied from digital sources if present, but if they are not, or if you make an analogue recording, you can enter them manually. Alternatively, if 'Auto Track' is enabled, an ID is inserted when the source level drops below -50dB for at least two seconds. The 501 also time- and date-stamps the tracks using its internal clock, but this function relies on an external timer plug, which seems odd.

Tascam MDs: blissfully easy recording

Where MDs really win over CD-Rs and DATs is in the editing of recorded tracks. Deleting individual tracks automatically renumbers the remaining tracks, freeing up space for more recording. You can move tracks to different track locations, and delete or insert track markers to combine tracks or divide tracks. When dividing tracks for example, you simply hit Ready at the desired split point, press the Edit/No key until 'Divide' appears, then press the Yes key. The display then toggles between 'Rehearsal' and 'Point OK?', while the first four seconds of the newly created track are played. Turning the Track dial then shifts the division point back or forwards up to 128 steps of 0.06 seconds. It's certainly not the same as chopping waveforms on a display, but it's surprising how accurate you can get. You could even use the divide, delete and combine functions together to remove whole chunks from within a tune.

Verdict

In terms of sound quality, the two units performed identically, with surprisingly impressive results both on up-front dance material and very quiet classical music, with no digital quantisation noise. We compared a digital dump of the source and copy in a Soundscape hard-disk recorder, and though there was a very subtle difference between the two and phase cancellation was far from complete with one waveform inverted, it would take a very well-trained ear to say which was the original. That said, you'd be unwise to use a MD recorder as a mastering device, for the simple reason that virtually no one else does; a quick call round some mastering houses revealed that none of them supported the format. Indeed, there's no guarantee of compatibility between different MD units, since each may have a different incarnation of ATRAC.

While the units are unlikely to remove DATs from their pole position,the 501 would make an ideal source of backing tracks for solo performers on the covers circuit. Its predecessor, the MD-801, is currently used at Radio 1 for instant access to jingles, and the 301 would perform admirably here too. That said, the units are not cheap, so there's little chance of them breaking out of these limited niche markets.

More From: Teac UK Ltd, 5 Marlin House, The Croxley Centre, Watford, Herts WD1 8YA Tel: 01923 819630 Fax: 01923 236290 Website: www.tascam.com

Spec Sheet

Figures quoted are for the MD-501, with any differences with the MD-301 shown in brackets.

Analogue Inputs:	Balanced XLR x 2, +4dBu, 10kΩ (None) Unbalanced RCA phonos x 2, -10dBV, 27kΩ (50 kΩ)
Analogue Outputs:	Balanced XLR x 2,+4dBu, 75Ω (None) Unbalanced RCA phonos x 2, -10dBV, 330Ω (600Ω)
Digital Inputs:	S/PDIF on RCA phonos, Optical x 2 (one optical only)
Digital Outputs:	Optical
Sampling Rates:	44.1kHz with automatic sample rate conversion
Frequency Response:	20Hz to 20kHz, +/- 0.5dB
S/N ratio:	98dB on playback, A filter
THD:	0.006% (0.008%)
Dimensions:	482 x 88 x 364mm

TASCAM

WHAT WE LIKE

- Surprisingly faithful recordings
- Excellent editing facilities
- Cheap, re-usable recording medium

WHAT WE DON'T LIKE

- No S/PDIF out
- SCMS enabled on the MD-301
- Insubstantial manual

OVERALL

These two units represent the pinnacle of quality for the MD-format, but their price and the continuing dominance of DAT restrict their use to limited niche markets.

RPG ACOUSTIC TOOLS

In the quest for truthful monitoring, the room itself has always been a stumbling block. Trevor Curwen seeks a solution with the new RPG Acoustic Tools

Modular Acoustic Treatment, from £59

Over the years, the gap between the quality of equipment used in home or project studios and that used in professional studios has narrowed considerably, to the point where it is now possible for anyone to have high-quality recording equipment at home for a reasonable outlay. One thing that has not narrowed, though, is the gap between the types of buildings that contain that equipment. Gear may be of a comparable quality, but there is still a massive difference between a purposefully designed and built professional studio, and the typical home studio space. Very few of us have the space, budget or inclination for the major structural changes needed to create a soundproofed and acoustically treated room. So that leaves us with the spare bedroom, attic, basement or whatever space we have.

Disregarding soundproofing (a whole other subject in itself) and concentrating on actual studio acoustics, we are often forced to work in a space whose shape is not ideal, which can greatly change the characteristics of the sound we are hearing from our monitors. Monitoring on headphones, or quietly on nearfield speakers, can work but there is always going to come a point when we need to whack the volume up to check the mix, or to get more into the vibe of the music. This is where the shape of the room can impinge on the characteristics of the sound.

In any room, the reflection of sound from the major surfaces will cause a series of standing waves. These are known as modes, and the best sounding rooms are those where the modes are evenly distributed. Where there is an undue concentration of modes in one frequency region, this will manifest as an accentuation of sounds around that region, usually as an excess of low frequency reverberation or bass boom in small rooms. Problems tend to occur when two or more dimensions of a room are the same or a simple multiple of each other but, luckily, there is no need to

resort to extensive building work and severe alteration of a room shape. Other methods can be used to alleviate problems. Bass traps (or bass absorbers) solve the bass problems. If you don't want to, or can't build your own, you can buy them ready-made.

RPG are a company that have tackled these problems head on, and come up with solutions. Their range of acoustic tools for project studios are designed to fit into rooms with a minimum of fuss, usually fixed to walls with a couple of screws, which can hardly be categorised as structural damage. There are three main items in the Acoustic Tools range – the B.A.S.S trap (Bass Absorbing Soffit System) at £106 each, and the Skyline (£59) and RFZ (£82) Abflectors, which help break up reflections.

The B.A.S.S. trap: inspiring confidence

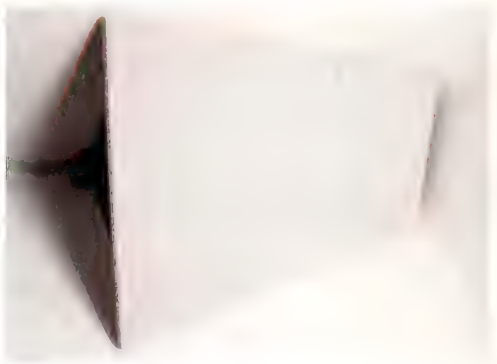
B.A.S.S spells...

Because bass frequencies have very long wavelengths, bass absorption systems usually require space, which is often at a premium in project studios. However, the corners between two walls or between a wall and a ceiling often go unused, and coincidentally, the B.A.S.S Trap has been designed to fit relatively unobtrusively into such spaces.

The trap is a highly efficient membrane absorber. Basically, the membrane absorber is tuned to a specific frequency and operates by resonating at half frequency. The vibration of the membrane turns sound into heat, thus absorbing the frequency. The design incorporates a new proprietary membrane, claimed to have three to four times the efficiency of conventional membranes, about 80% at 80Hz. The absorption bandwidth is further broadened by a fibreglass mat in the cavity, placed a centimetre from the membrane.

Physically, the trap feels quite light, actually weighing in at around five kilos, with a body made of tough black plastic. The 60 x 60 cm face, which is the only bit on view when installed, is finished in a fairly neutral grey coloured fabric as standard, with several other colours available to order. Fixing is by brackets on the rear of the unit that hook onto screws or picture hooks fixed to the wall. Fixing these was a little awkward, and some sort of template to work out the two screws relative positions would have been useful. The good news is that the rear of the unit is recessed in from the face, so they can look good even in corners that are not exactly 90°.

Several B.A.S.S traps will stack, and a simple system of two plastic tubes, slotting in locating holes on the tops and bottoms of each unit, allows this to be done easily. Once firmly fixed to the wall, the traps actually enhance the look of a room; as with the other items in the range they make a room look professional, something that should not be underestimated – anything that inspires confidence in clients has to be worthwhile.



The Abflector creates a reflection free-zone

The big sponge

The Skyline is designed to produce a diffuse sound field in a control room by controlling first-order reflections from a rear wall. According to RPG, "Diffusers based on primitive root sequences uniformly diffuse sound from all directions and have a unique capability of suppressing sound in the specular direction of their design frequency and integral multiples thereof." So there.

Now, this is a weird looking thing – imagine looking down at New York from above and realising it was entirely constructed of expanded polystyrene packaging material. Viewed from above, this actually does look like a city skyline, but is designed to be fixed to a control room rear wall with the blocks facing into the room.

A Skyline weighs just over a kilo, and is 60 x 60 cm, sticking out about 15 cm from the wall when mounted. Mounting is fairly easy; a hard plastic bracket consisting of two tubes fixes to the wall with one screw, and two holes around the back of the Skyline slot onto this. Two velcro tabs fixed with sticky pads at the bottom of the Skyline complete the fixing. The idea is to mount at least four of these in a cluster at the centre of your rear wall, preferably directly behind the monitoring position.

The third acoustic tool is the Abflector, which is a wedge-shaped upholstered fibreglass panel, designed to create a reflection-free zone at the mix position. This absorbent splay panel should be mounted on side walls, and possibly the ceiling, between the loudspeakers and the listening position, where it reflects incident sound towards the rear wall and absorbs a significant frequency bandwidth to give improved imaging and sound-stage accuracy. The Abflector weighs three kilos and is 60 x 120 cm, projecting out 15 cm into the room.

In use

Untreated, the guinea pig studio sounded pretty damn awful, with a nasty bass boom. Room analysis confirmed that problems were occurring at multiples of 40hz, so obviously some form of bass trapping was needed. RPG supplied four B.A.S.S traps, and these were installed, one in each of the two front corners near the ceiling, and two in one of the rear corners, the other rear corner having a door and no room for fitting. The bass problem was much improved straight away, with much less boom, but it wasn't a complete cure. That isn't to say that the B.A.S.S traps are not efficient. RPG's advice was to fix six, but we only put in four as an initial installation to check them out. With no corner space left, it's lucky that RPG also manufacture a flat version to fit on any wall space.

Four Skylines were also installed, although not totally in the centre of the back wall as recommended (two large doors were in the way). Nevertheless, positioned slightly off-centre they have improved the clarity of sound in the room, and they look pretty cool.

Verdict

There is little point in having a top-quality, accurate monitoring system if the acoustics of your room muddy the picture. RPG's acoustic tools can provide a real solution to such problems with minimal structural damage. You can use them to tailor your sound space to your own needs, and to outsiders coming into your studio they will make it look like you mean business. What's more, you can take them with you when you move. These units put together are not cheap, but what price do you put on accurate monitoring? ■

More from: Acoustic GRG Products, Unit G, Smarden Business Estate, Smarden, Kent, TN27 8QJ Tel: 01233 770291 Fax: 01233 770415

ACOUSTIC TOOLS

WHAT WE LIKE

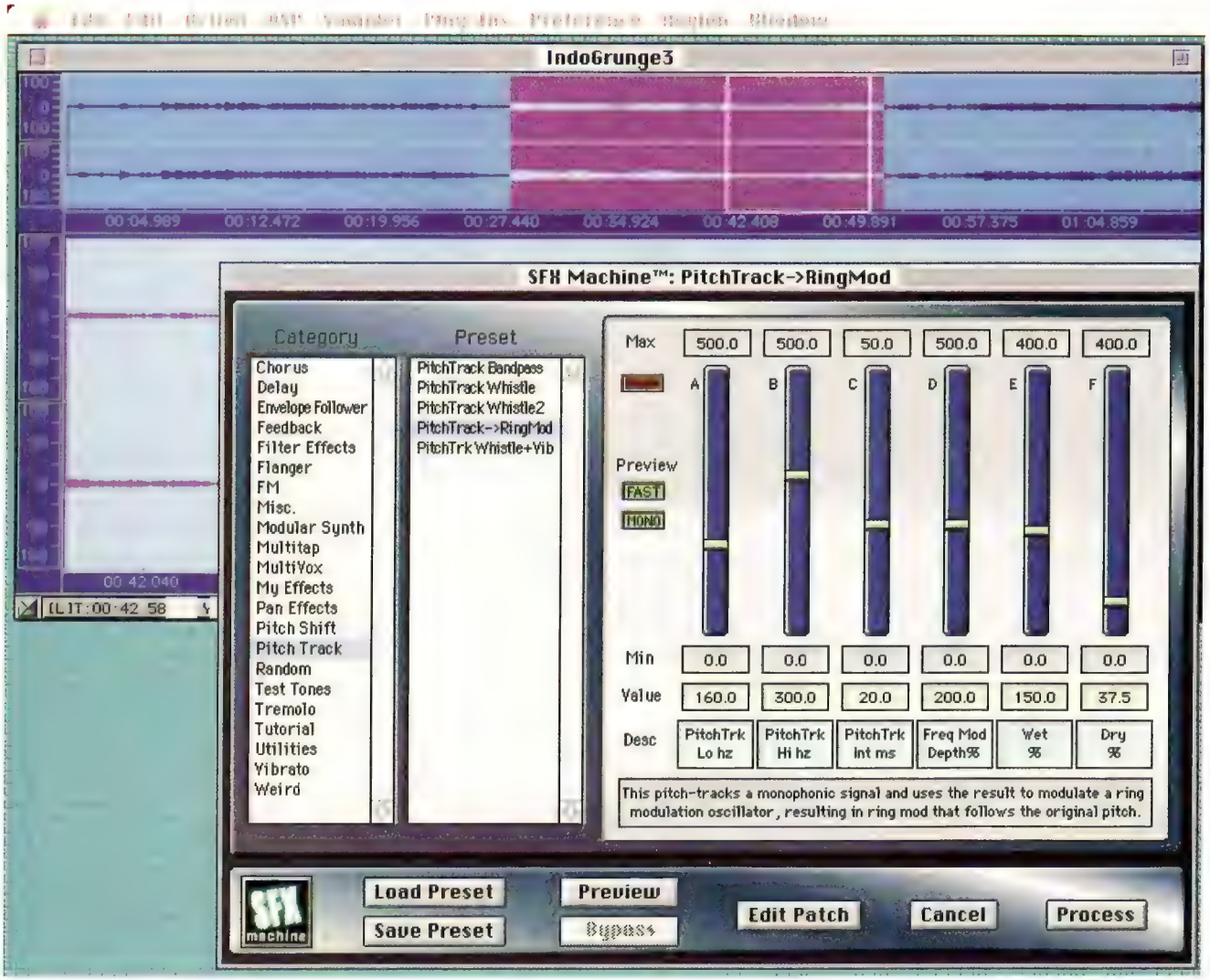
- B.A.S.S traps very efficient at curing bass boom
- Portability
- Gives your room a professional look

WHAT WE DON'T LIKE

- B.A.S.S traps are a bit fiddly to fit

OVERALL

A one-stop solution to room acoustics problems, with minimal structural damage.



SFX Machine running with Bias' Peak – tracking the pitch and ring modulating it

BIAS SFX MACHINE

If you do your sound design in goggles and a white coat, SFX might be just what you're looking for. Ian Waugh unlocks the machine room

Mac Plug-In £225

So what else can you do with a digital audio plug-in, apart from producing reverb, EQ, chorus, dynamics effects and variations thereon? How about adding a touch of modular synthesis? That's exactly what Bias have done with SFX Machine. It's an Adobe Premier compatible plug-in which will also work with programs such as Bias Peak, Deck II and Vision.

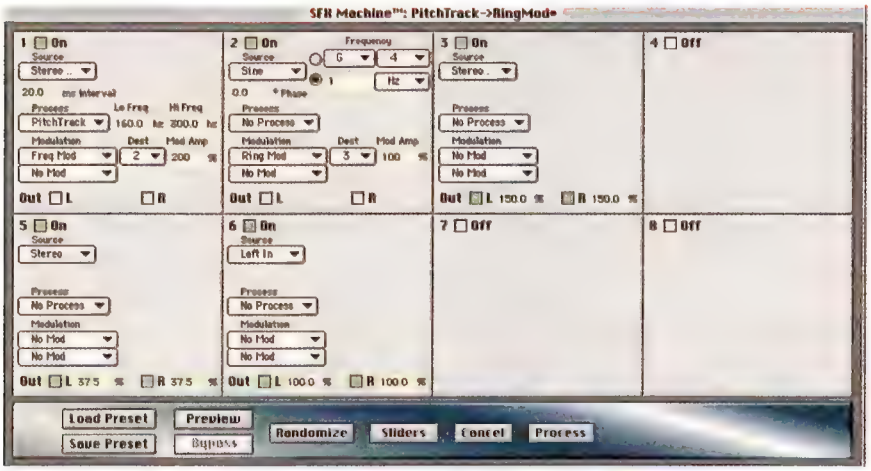
In use

The program has two screens: Slider and Edit. On the Slider screen is a list of categories such as chorus, delay, flanger, vibrato, tremolo, feedback, pitch shift, multi-tap, multi vox, random and FM. Selecting one produces a list of presets in that category, and the program comes with around 200 presets. Each preset may have up to six sliders which can be used to change various parameters. You can listen to the effect in real-time as you twiddle, so it's easy to make adjustments. If you find a setting you like, you can save it as a preset.

If you're feeling a little more adventurous, you can create your own presets in the Edit screen. This contains eight identical modules, each with four main sections – modular synthesis coming up.

First, you select a source, which can be the audio material itself or one of a number of waveforms which the program can generate. This runs into a process section which includes delay, pitch tacking, envelope following, sample and hold, and three types of filter.

Next it's to the modulation section which contains over a dozen modulation functions, including amplitude, ring, pan, frequency, delay, phase and filter. From here the signal



...and this is the patch which follows the pitch which ring modulates the sound

can be routed to any of the eight modules. There are two modulation sections, too, which allows you to apply two different types of modulation to a signal and pass it onto two other modules.

The final section is the output, where you route the signal to the left, right or both outputs and set the output level. Any of the variable parameters can be assigned to a slider in the Slider screen.

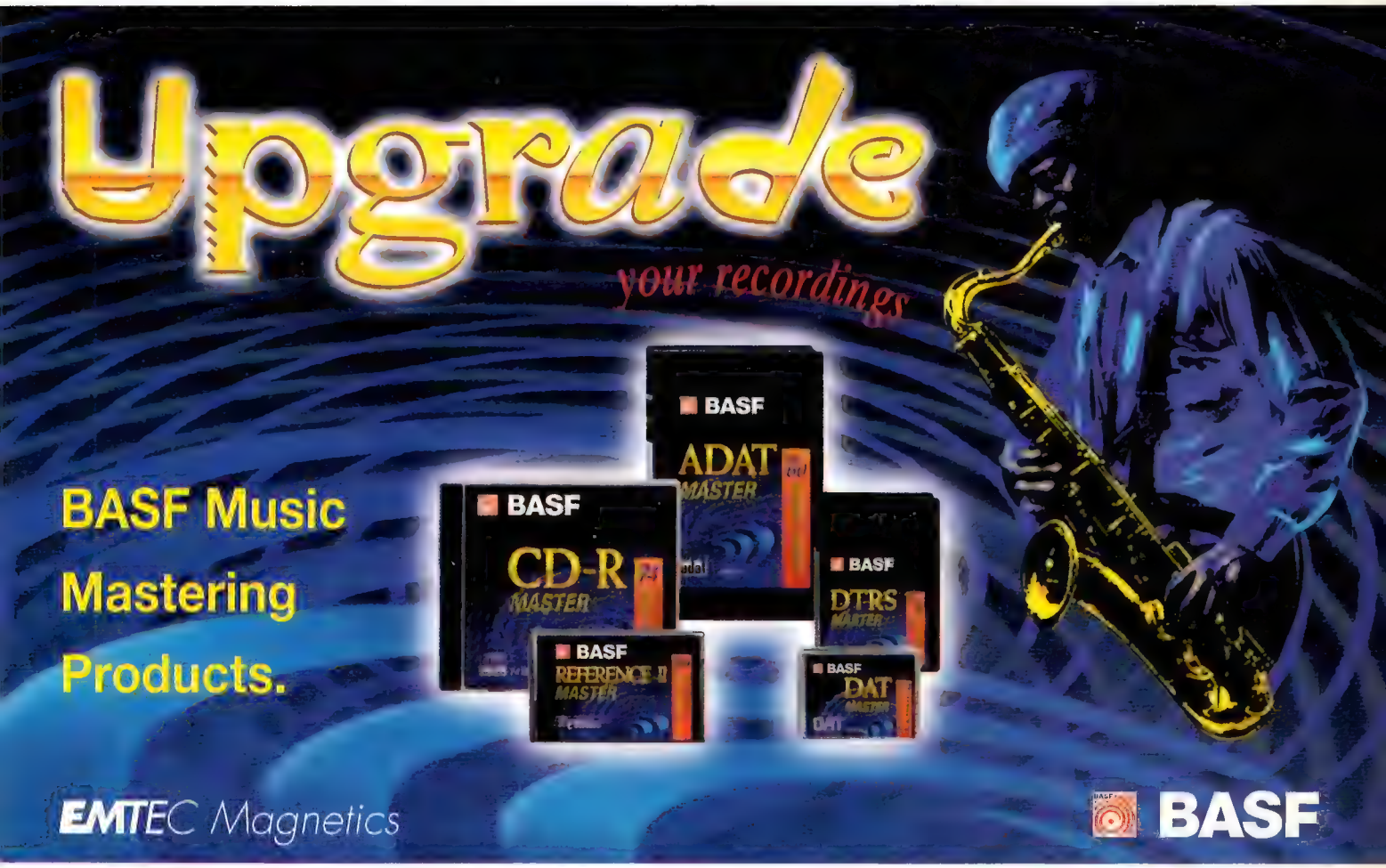
The basic process of setting up patches is easy. The functions are selected from pop-up menus and you type values into the parameter boxes. Determining what's going to happen to a signal as it winds its way through the program isn't always obvious, but you can listen to the output as you set up the patches so you can still use an experimental approach.

Verdict

It probably won't be the first FX plug-in you buy, but if you're the sort of person who wouldn't use a synth preset on principle, you'll enjoy the ability to transform recordings and samples and mix them with synthesized effects.

There was a demo copy of SFX Machine on our issue 44 CD, and you can download a copy from the Bias website (www.bias-inc.com). If you don't have an Adobe Premier host program, there's also a version of Peak le on the site.

More from SCV London, 6-24 Southgate Road, London, N1 3JJ. Tel: 0171 923 1892 Fax: 0171 241 3644 Email: aslade@scvlondon.co.uk



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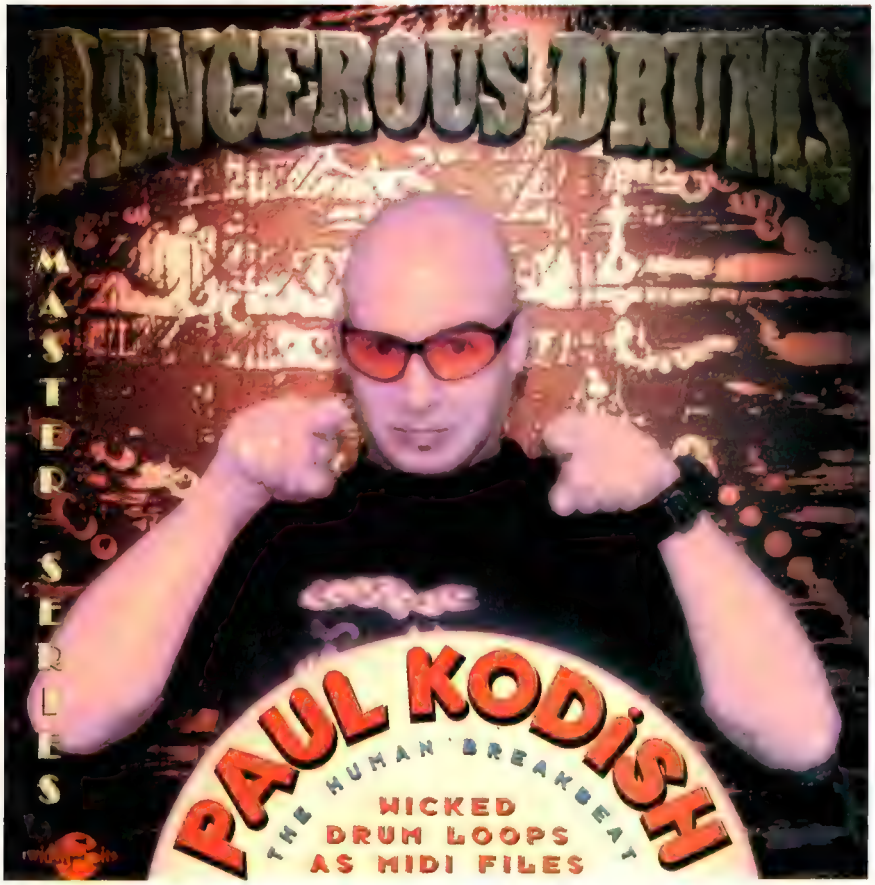

PAUL KODISH
DANGEROUS DRUMS

MIDI Files £25

Now you can use the same drummer as the Prodigy and Apollo 440, with this new collection of MIDI files

There have been several claims to the title, 'the human drum machine', but this is the first time we've had a 'human breakbeat'. The human in question is Paul Kodish, who regularly chops out his beats at an astonishing 160-170 bpm with a precision that rivals any beatbox. Such prowess has inevitably brought him to the attention of people like Apollo 440, Tom and Ed Chemical and the Prodigy, with 'Breathe' and 'Firestarter' figure among his best known tracks.

Dangerous Drums is a collection of Paul's beats and breaks in the form of MIDI files on floppy disk.There are an astonishing 500-plus files, many up to four bars in length. Tempos range from 95 to 170 bpm, and being MIDI files, they're fully editable in a way that isn't possible with sample loops, no matter how good your sampler's time-stretch routines are.

Dangerous Drums adopts the standard GM format and is compatible with any sequencer on any computer or workstation. MIDI Program Change messages at the start of each file instantly set up your drum sounds – providing they're mapped to standard GM voicing. Reflecting Paul's multi-snare stage kits, some of the files make use of both E1 and D1 snare assignments – but beyond that, everything is pretty conventional.

Of course, what the MIDI file format doesn't provide is the sound of Paul's drums, and this may be of concern if you've ever programmed your own patterns and discovered how 'instrument-specific' they can be. Change the sound of a couple of instruments and the entire feel of the pattern can change. How can we know what kind of sounds Paul used when programming these beats? Clearly, we're supposed to experiment with our own sounds, but frankly, this negates the idea of putting a personality on the front cover. Obviously, Paul's drums can't be included on a floppy, but a written description would have been useful.

In any case, we managed to produce some excellent results across a wide range of voice assignments derived from synths, sound modules and samples. Stylistically, it's more of a mixed bag than anticipated. The back cover mentions drum & bass, gogo, jungle and swing grooves, but as you'll discover when you get them into your machine, the patterns are much more flexible than such categories suggest. As is often the case, rhythmic feel varies according to tempo, the choice of instruments, and context.

No quantising has been used anywhere on this collection. Of course, this only counts for anything if no quantising is necessary on playback, and generally it isn't, even at low tempos. Despite this, the patterns maintain a uniquely live feel, which is something you can't easily create using fingers and pattern grids. That alone makes *Dangerous Drums* a must-have. ™

More from: Keyfax Software, P.O. Box 4408, Henley-on-Thames, Oxon, RG9 1FS. Tel/Fax: 01491 413938 E-mail: 102045.3065@compuserve.com Website: http://www.keyfax.com

Hear just how dangerous Paul Kodish's drums are with our demo, using a standard GM kit.

MIDI FILES

WHAT WE LIKE

- Flexibility of MIDI file format
- Live feel
- Price (cheaper than sample CDs)

WHAT WE DON'T LIKE

- Limited documentation

OVERALL

An impressive example of this creative alternative to sample CDs. Well worth the money.

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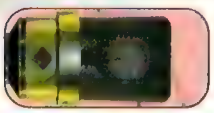

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REVIEW

SAMPLE CDs

INSIDE KOMPUTER
PRODUCED BY AMG
DISTRIBUTED BY TIME+SPACE

Komputer are a London based electronic pop band. The three members – Simon Leonard, Jane Brereton and David Baker – share an above-average interest in the philosophy of synthetic sound. "To make electronic music," they reckon, "is to make sounds that make sense of the everyday beeps and squeaks we all live with." And, as if to put their money where their collective mouths are, they've put together this individual collection of sounds, loops and sequences in advance of their forthcoming debut album *The World Of Tomorrow*.

So what do you get? Well, judging by the selection on offer it seems like Komputer have been listening to an awful lot of Kraftwerk over the years. Which makes this the perfect collection for anyone interested in techno, hip hop or electro. There are plenty of analogue squelches, robot sequences and bass loops on offer, including a good single-hit section focusing on analogue percussion from a series of classic Oberheim, Korg and Arp machines, though you may need a slightly beefier kick drum than anything that's on offer here if you really want to construct a thumping dancefloor track.

The disc is split into seven distinct sections; Loops, Sequences & Sweeps, Miscellaneous Synth Notes, Chords & FX, Synth Drum Patterns, Synth Sequences, Synth Noizes, Electronic Percussion Hits and Miscellaneous Notes which includes a selection of good analogue bass hits, including a great one from the Korg MS20 that's bound to find a lot of use.

Basically, *Inside Komputer* provides all the building blocks you're going to need for a variety of electronic music. But even if the idea of creating an entire track from someone else's material has you throwing up your hands in horror, this is a useful collection for providing inspiration. Overall, this is a very versatile collection that's well worth investigating. • ***Tim Barr***

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VIDEO CREATIVE ESSENTIALS
PRODUCED BY ZERO-G
DISTRIBUTED BY TIME+SPACE

It's all about image. Not the threads you wear but the video which accompanies your latest hit. How many songs can you recall which made it on the strength of the video rather than the music? But it ain't fair, is it? You spend your life perfecting your musical art and then you're expected to be a video producer, too. Well, *Video Creative Essentials* has come to the rescue. Building on the success of the Creative Essentials budget-priced sample CDs, these CDs contain videos which you can use in demo videos, as textures in a graphic design program, as clips for your Website or as additional movies in X<>Pose. The CD contains videos compatible with both Mac and PC and you get a tryout version of Adobe Premier, too. The pack contains a second CD of audio samples from the Creative Essentials series, too, which is a nice little extra.

Trance Spotting (cute name, guys) is fifth in the range and it contains 66 videos divided into five categories: DJs, Pulses, Tektools, Textures and Tranced. The first contains DJ mixing and turntable images, suitably processed and out-focused. Pulses are mainly psychedelic patterns designed to assist the freak-out process. Tektools are videos of cool gear such as the TR-909, the Prophecy, OB-Mx, the Juno 106, Jupiter-8 and so on, pulsating and bathed in weird lights. Textures is more moving patterns and trances is more, er, moving patterns, kaleidoscope images and palette switches.

The problem is that if you want to create a song-length video using images which have a coherence, you may be struggling to find enough which fit well together. 66 clips don't offer vast choice although they do fill the CD. They average about 9Mb in size. And you thought audio files were big! The *Video Essentials* offer an inexpensive way to incorporate video images into a range of visual material. If you fancy doing stuff with video but lacked the raw materials, give this a try. • ***Ian Waugh***

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VINYLISTICS #3
PRODUCED BY E-LAB
DISTRIBUTED BY TIME+SPACE

This is the third and, apparently, last ("*The Final Chapter*") in the acclaimed *Vinylistics* series of hip hop/R&B/funk breaks. 'Authentic' is a word bandied around a lot, but it's also one that's very appropriate to the *Vinylstic* series. While other sample CDs might dish you up a diet of pristine clean breaks that only 911 would use, *Vinylistics* give you some of the dirtiest and roughest breaks around. And for those of you who rely on loops, you'll know that this scratchy, low-fi roughness gives you a head start in producing kicking rhythm tracks. *#3* follows the usual *Vinylistics* formula of the loop first, with variations, followed by the individual drum elements. The length of the loops varies from four to 12 bars, and the last 12 tracks give you lots of shorter loops (up to 30 on each track) to play around with. Tempos are within quite a restricted range, as you'd expect with these type of loops, with many at 100bpm and the total range going from 84bpm to 119bpm. The tempi aren't chosen by chance, either. In keeping with e-LAB's *X-Static Goldmine* series, *Vinylstics #3* now uses the 'LoopMaps' system, in which tuning a loop down or up a half step will match the BPM of other loops on the disc. This makes it easier to mix and match different loops without too much messing around. And, by God, it works!

The strength of this CD is in the wide variety of kits – electronic and live – that are used. There seems to be a greater variety of loops than on earlier releases, and many have less in the way of ambience which means you can decide what effects are used. If you don't like record noise, then you've probably bought the wrong CD – next time, read the label! All in all, this is probably the best *Vinylstics* yet, featuring the best loops and most varied sounds of the trilogy. Really essential if lo-fi is your particular bag. But hey, I would say that – I'm a sucker for all that scritchy-scratchy vinyl nonsense! • ***Chris Kempster***

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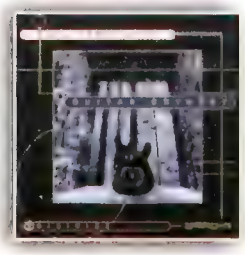
Lo-fi antics, guitars, drum & bass and hip hop/R&B are all featured on this month's clutch of sample CDs...

GUITAR ODYSSEY
PRODUCED BY ZERO-G
DISTRIBUTED BY TIME+SPACE



If you had the choice of whether to be a brain surgeon or a guitarist, which would you choose? Well, luckily for us, Dr. Ika Kikvadze chose the latter, even going to the extent of defecting from his home in the former Soviet Union to avoid the KGBs scrutiny of his interest in "subversive" Western guitar music. And so to *Guitar Odyssey*, Ika's first sample CD. He was spotted by the Digivibe team (who produced *Guitar Odyssey*) playing in a jazz club in Cardiff, but a common ground was not found until they saw him jamming away with the house DJ at one of their parties.

The CD is a collection of samples that capture what Ika does live and has been created by breaking down many of his improvisations into single and double bar loops. A few sustained chords and effects are also thrown in for good measure. For each sample the style, FX/amp used, bpm, and key are listed. An abundance of effects and amps have been employed here, and these gadgets, along with Ika's naturally fluid yet funky playing style, have been used to produce a CD with some of the most original and best played guitar loops around. The target user for this collection is the dance producer – it's already been used in some house, trip-hop and drum & bass tracks, but the potential for creativity with this CD is large.

However, if you are looking for a collection of rock guitar riffs, you should look elsewhere. There are certainly some loops with a rock feel, but not £59.95 worth. This is more of a funk-fest, with every loop having the sort of feel and fluidity of playing that most guitarists struggle for years to perfect. Most of the sounds are heavily effected, some to the point of being barely recognisable as guitars, but this in no way detracts from the useability of the CD. It would be fair to say that Dr. Ika Kikvadze is the best thing to come out of Russia since Smirnoff Black Label. • ***Adam Crute***

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CLUBSPHERE 160BPM
PRODUCED BY SOUNDS GOOD
DISTRIBUTED BT TIME+SPACE

First of all, let's make one thing clear; *Clubsphere 160bpm* isn't a sample CD as such. One of five double disc packages covering all the most obvious club tune tempos: 80–90bpm, 100–110bpm, 120–130bpm, 140–150bpm and 160bpm; this range is designed for DJs as a selection of beats, loops and sounds to enhance their live sets, as opposed to supplying a music-maker with a resource of building blocks.

What you actually get with *Clubsphere 160bpm* is a collection of 40 stereo and 20 dual mono loops, the object being to provide a DJ with extended loops with which he or she can link records, or mix in with a track of the same tempo. The basic format is that of a two-bar loop repeated over a duration of some two minutes which can be dropped into a set independently. Now this kind of begs the question 'Why not buy a DJ sampler and pick up an open drum section from the track your playing, then loop it?', for which there's no obvious response other than 'Because a *Clubsphere* CD costs less than £20, whereas you're unlikely to pick up a sampler for less than a couple of hundred quid'. Get the picture?

The 160bpm version is, unsurprisingly, aimed at jungle/drum & bass DJs, and the loops are without doubt good quality, well recorded and highly useable within their chosen genre, and the dual mono stuff in particular could be cleverly incorporated into a set by using pan mixes to merge the two sympathetic loops. But while it's possible to imagine a creative DJ using a *Clubsphere* CD in an interesting way, it's also likely that the same creatively minded DJ would ultimately be better off taking the sampling route. From a recording perspective, if you don't own a sampler and want a couple of CDs worth of two-minute backing rhythm tracks, you might consider *Clubsphere* as an accessible alternative, but on the whole these CDs seem to be of limited use to serious samplists.• ***Derek O' Sullivan***

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AND FEATURED ON THE CD...

We've got a veritable plethora of weird and wonderful six-string shenanigans this month. Here's a taster of what to expect:

LIQUID GUITAR

70 minutes of electric sitar, pedal steel, wah wah, slides and more, *Liquid Guitar* features the playing prowess of some of the finest guitarists in their field. Matt Andes, Grant Geissman, Ira Ingber, Randy Jacobs, Doug Livingston and John O'Kennedy all lend their special touches to the proceedings with absolute finesse. Rhythm licks as well as individual notes are included, and as well as fitting numerous styles, they offer an abundance of inspiration to boot. Realistic, dirty timbres are the order of the day on *Liquid Guitar*, and there's so much variety, that it's ideal for any samplist needing live guitars.
Price: £44.95
More from: Sounds OK
10 Frimley Grove Gardens, Frimley, Camberley, Surrey, GU16 5JX
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FRANK GAMBALE SONG STARTERS

Armed with an abundence of jazz loops and chords, *Song Starters* is the brain child of Aussie jazzer Frank Gambale. The fact that he's recorded and performed with artists of the calibre of Chick Corea, Jean Luc Ponty and Vital Information, signifies that this is gonna be good. And it fails to disappoint. Just check out the demo, and you'll realise the capabilities of this talented player. The two CD set is expertly put together, with sampling very much in mind. As well as the superbly played and recorded single notes and riffs, there's a comprehensive written explaination on the inlay, including elements of music theory. Handy. Although jazz is the mainstay of *Song Starters*, there are numerous styles which this CD could accomodate. There's funk elements, and even some timbres that could work on out-and-out rock. This is a versatile and comprehensive series that will suit many styles of music.
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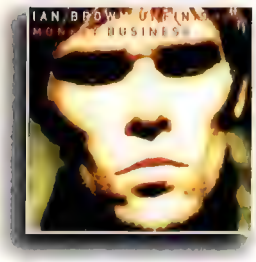
Fax: 01276 682717
• ***Nick Serre***

NEW RELEASES

IAN BROWN
UNFINISHED MONKEY BUSINESS
(EMI)

Producer: Ian Brown/ Various
Engineer: Ian Brown/ Various
Studio: Chiswick Reach/ The Forge



By now we've all just about got over the surprise of discovering that ex-Stone Roses gobshite, sorry, godhead, Ian Brown has not only made a decent album, but has also quashed widespread assumptions of his absolute uselessness by playing half the instruments himself and generally being a bit of a wonder. After their first album, nine years ago, The Stone Roses – was ever a band more overrated in modern music? – had to make an epic choice between funky dance music and stirring but silly rock. Guitarist John Squire chose the latter with Roses swan song 'The Second Coming', and his current outfit The Seahorses. Ian Brown, to his credit, has gone in the opposite direction – the bass heavy 'Can't See Me', in particular, is like 'Fool's Gold Part 2', and what a good thing that is. Otherwise, *Unfinished Monkey Business* veers from the fat guitars and off-beat drumming of 'Ice Cold Cube' to the weird high-speed dub of 'Lions'. With vitriolic lyrics (including some none-too-subtle swipes at former comrade Squire) and an ominous feel, this is the album nobody thought Ian Brown capable of making. Throw him a banana, someone. • *Pat Reid*

Verdict: Baboon, shake the room 7/10

TERRY CALLIER
TIMEPEACE
(TALKIN' LOUD)

Producer: Brian Bacchus
Engineer: Michael Ade
Studio: Tone Zone, Chicago/ Matrix Wessex

This really sends shivers down the spine. Callier's intense vocals and lyrics, combined with evocative instrumentation, hit the mark perfectly. Folk, blues, soul, call it what the hell you want, but it's the smoothest, most emotion-prompting stuff I've heard for ages. Hailing from Chicago, Callier disappeared from the music scene in the mid 80s, after numerous negative experiences, until Acid Jazz head honcho Eddie Pillar tracked him down. Five years later comes an album from a man who has paid his dues. Make no mistake. 'Lazarus Man' is the epitome of anguished soul; tormented vocals colliding with lush acoustic guitars and earthy drumming. Lyrically, Callier swings from themes of redemption to agony with no apparent effort. 'Keep Your Heart Right' deserves to antagonise six-stringers everywhere for the sheer ingenuity of the guitar parts, and the title track is abound with poignant wordly messages that are simply captivating. There are few artists around who can honestly match this calibre. *Timepeace* is so blissfully bluesful, it begs the listener into depression. Which can't possibly be a side-effect of music this sublime. • *Nick Serre*

Verdict: Indescribably wonderful.....9/10

PEARL JAM
YIELD
(EPIC)

Producer: Brendan O'Brien, Pearl Jam
Engineer: Nick Didia, Matt Bayles
Studio: Studio Litho, Studio X,

With Nirvana and Soundgarden dissolved, Pearl Jam remain the sole survivors of the Seattle grunge trio that electrified middle America during the early 90's. *Yield* is the fifth album from Pearl Jam in six years and notably, Eddie Vedder loses his monopoly on the songwriting. This, however, should be taken as an indication of PJ's new approach to their music rather than as a sign of Vedder's demise as a songwriter. With that in mind, it seems inevitable that this album would offer something a little different; and it does. *Yield*'s musical flavour is a little diverse, fluctuating from grunge, to punk, country and even jazz. In striving to achieve a style that is 'authentic' and 'challenging', Pearl Jam have undeniably discarded the anthemic qualities that brought them to the forefront of the grunge stratum, and the demonstrative stomping sound of Vedder's voice doesn't appear to carry as much weight on this album. It would be no mean feat to recapture PJ's seminal earlier works, and sadly, this is a shortcoming of *Yield*. Although this album shows definite glimmers of their earlier style, this is not vintage Pearl Jam. • *Jason Ricks*

Verdict: The Pearl Jam we sometimes love.....7/10

MILESTONES

VAN HALEN
(WARNER BROS.)

Producer: Ted Templeman
Engineer: Donn Landee
Studio: Sunset Sound, Hollywood

When this Yank four-piece exploded out of the Hollywood club scene in 1978 with this slab of virtually perfect guitar rock, the whole six-string world was changed for ever thanks to Dutch-American wonderboy Edward Van Halen; the lad was a Hendrix of the '70s.

So basic was the production technique that Ted Templeman, the man at the sliders, panned all the rhythm guitars hard left, leaving only sporadic overdubs on the right side: our Eddie wasn't comfortable with the newfangled technique of doubling his tracks, and he actually still isn't, preferring to simply put down most of the guitars, solos included, in one take.

A cover of The Kinks' 'You Really Got Me' announced the album in the *Billboard* charts, but it was the guitar sound of EVH, the testosterone-fuelled antics of vocalist David Lee Roth and a bigger-than-life attitude that finally saw the band catapulted to the heights of fabdom and beyond. "Those two go together like beer and pizza." gushed *Rolling Stone* magazine at the time.

The riff from 'Ain't Talking 'Bout Love' resurfaced in the 1997 hit single by Apollo 440, 'Ain't Talkin' 'Bout Dub', albeit at twice the speed of the original, but offerings such as the hook-laden 'Feel Your Love Tonight', the kinetic, 'doing-a-ton-down-the-highway' chest thumping metal of 'I'm The One' and the rather surreal 'On Fire' proved that one basic style can be stretched every which way. The undoubted highlight as far as embryonic axemen the world over were concerned was 'Eruption', barely 60 seconds of jaw-dropping instrumental guitar that inspired everyone who subsequently picked up the electric guitar to tap like an employee of Armitage Shanks. OK, so it sounds dated today, but so does Hendrix, and he's still incredible too.

Van Halen are still one of the biggest bands in the world, and you can blame them solely for the eruption of LA hairspray bands such as Mötley Crüe, Poison, Ratt et al, all of whom had the staying power of a 16-year- old's...er... first time. Phenomenal. • *Simon Bradley*

16B
SOUNDS FROM ANOTHER ROOM
(EYE Q)

Producer: Omid Nourizadeh
Engineer: Omid Nourizadeh
Studio: Alola Central

Over the last 18 months, Omid Nourizadeh's reputation as one of the UK's most talented new house producers has been building steadily. As 16B, his records – like last year's acclaimed 'Water Ride' single or the recent 'Black Hole' 12" on Eye Q – combine subtle, seductive grooves with melodies which occupy a fine line between underground edginess and commercial accessibility. It's a combination that's had DJs of all persuasions nailing their colours to the mast and dropping Nourizadeh's name whenever they want to establish their own front-line credentials. So it's no surprise that 16B's debut album, *Sounds From Another Room*, is one of the most eagerly awaited house releases of recent months. Tracks like 'Strange Day' or the delicately crafted 'Deeper' are full of compelling, sinuous rhythms and wraparound synthetics. If house music that's original, innovative and inspired is your bag, then *Sounds From Another Room* is definitely for you. • *Tim Barr*

A modern house classic.....9/10

All the major album releases of the month reviewed and rated, our classic sessions spot *Milestones*, plus who's in the studio doing what with whom in *Recording In Progress*...

GIRL EATS BOY THRILLED BY VELOCITY AND DISTORTION (HYDROGEN DUKEBOX)

Producer: Lol Hammond
Engineer: Matt Rowlands
Studio: Various

The brainchild of one of the most on-the-pulse producers, Lol 'Beat Finder General' Hammond, *Thrilled By Velocity And Distortion* is a journey through the mind of a man who seems to have effortlessly absorbed everything that is breakbeat. 'Napalm In Bohemia' is a masterpiece of squelchy bass, military-sounding vocal samples, along with hints of sultry female vocals. Hooks are everything for Girl Eats Boy, and even when they are unleashed three minutes into a track, they add a new dimension to the proceedings – guaranteed to keep the most jaded of clubbers on their toes. 'Chemical Phunk' incorporates some slightly dated sounds; 808 kicks and cowbells a la Loose Ends circa 1987, but with grooves of this calibre, who cares? There's scratching intertwined with hard drum & bass, there's elements of Detroit techno, and there's pure funk, too. Given the multitude of styles here, it's a wonder the album is so coherent and seamless, but it flows perfectly, and there's not one dodgy track to speak of. An expertly executed album, that is, simply, exquisite. *•Nick Serre*

Verdict: Cohesively disparate and delectable.....8/10

STEVE STOLL THE BLUNTED BOY WONDER (NOVAMUTE)

Producer: Steve Stoll
Engineer: Steve Stoll
Studio: Home

New York's Steve Stoll has turned out some remarkably fierce, but beautifully seductive techno over the last few years. His sound is minimal, edgy and deeply funky, though (typically perhaps) his profile has remained resolutely underground despite the quality and huge popularity of his records.
All that might be about to change, though, with the release of *The Blunted Boy Wonder*. Tracks such as 'Model T' or 'Slipstream' combine relentlessly riffing grooves with the kind of subtle twists and percussive melodics that have always made Stoll's output so compelling, but there's a new-found confidence (both in the overall production and in the tracks themselves) here that gives this record a fresh and inspired take on the currently weary sound of minimal dancefloor techno. And as far as standout tracks go, well, there are more than a few. Check out the tough, adamantine funk of 'Mosquito' or the deep Detroit-ish romance of 'Falling Down' with its narcotic circular rhythms and glittering synth stabs and you'll hear techno at its best. Overall, it's the kind of LP you can't afford to miss. *• Tim Barr*

Verdict: Minimal but inspired techno.....8/10

AVALANCHE HANGOVER SQUARE (CORRIDA)

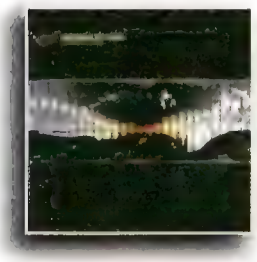
Producer: Cathal Coughlan
Engineer: Rob Keyloch
Studio: The Sound Studio, London

A glamorous assemblage of artistic misfits and London lowlife, Avalanche are led by the sleazily charismatic Philip Kane, self confessed 'poet, raconteur and arsehole'. Musically and lyrically, they are the anti-Oasis, peddling music that strives to be epic, lyrics that aspire towards poetry, and a romantic, nihilistic world view that can just about make out the stars from the gutter. Small wonder, then, that former Fatima Mansion and one-man bile industry Cathal Coughlan is credited as producer. From the booze-soaked cabaret blues of 'Spilling Whiskey' to the putrid closing splutter 'Queen Of Germs', this is dirty territory for sure. Rockers like 'Cultural Tourists' (about the Bangkok sex trade) and the Nick Cave-ish 'Sarah' keep up the pace, but it's the yearning ballads like 'Bleak Romance' that are truly outstanding. Kane may be a grizzled old dog, swimming in self-hatred, but he sings like an angel, albeit a cancerous one. *Hangover Square* is far from the easiest listening you'll hear in 1998 but, if your life isn't all sunshine, rainbows and 'Brimful Of Asha', you may well want to make some space in your heart for this filth. *• Pat Reid*

Verdict: Art of darkness.....8/10

CIRCADIAN RHYTHMS INTERNAL CLOCK (LANGUAGE/CRAMMED)

Producer: Charles Bullen
Engineer: Nigel Laybourne
Studio: Circadian Studios



There's been a developing trend towards a modern fusion of jazz and electronics lately with producers as diverse as Ian O'Brien, Jimpster's Jamie O'Dell and Carl Craig pushing the envelope in a number of different ways. The latest artist to join this expanding and innovative group is former This Heat! member Charles Bullen, who's enlisted various musicians to create an inspired album. Tracks like 'AEA' or the wonderful 'Tumescence' layer ultra-funk loops and Detroit-ish strings with live guitars, flutes and saxes to come up with a combination that seems to tap into the cool motherlode of, say, *Bitches Brew* or *Headhunters* and then locks itself deep in the machine grooves of latin house or techno. Overall, this is an album that perfectly demonstrates why jazz is providing such a fertile seam of inspiration for producers on the cutting edge. Bullen's capable of pulling subtle melodies from a whirlwind of tangled instruments. It's a blend that's as irresistible as it is innovative. Don't miss it. *• Tim Barr*

Verdict: Pre-millennial jazz fusion.....9/10

RECORDING IN PROGRESS

Nigel Woodward is producing a single for **Cat** at Chiswick Reach studios.

James are recording a live album for Mercury records at Whitfield Street studios with producer Pete Lewis.

Björk has been at Olympic studios mixing the new single from her Homogenic album, 'Alarm Call' produced by Mark Bell.

Stereo MC's are at Whitfield Street studios mixing tracks with producer Marius De Vries.

Julian Lennon is at Britannia Row working on a new album with producer Bob Rose.

Robbie Williams is at Battery studios mixing tracks with producer Steve Power.

All Saints are at Marcus Studios mixing new tracks.

Glama Kid are working on album tracks at Berwick Street studios with the Dirty Devils production team.

Battery studios is the current residence of **MOA** who are mixing tracks with producer Bryan New.

James – recording a live album

Chip Taylor is self producing album tracks at Berwick Street studios.

The Audience are working on their debut album at Red Bus, with producer **Mike Hedges**.

Sarah Bedingham is co-producing tracks with Glitterbox at Battery studios.

Hugh Jones is producing tracks for **The Bluetones** at Britannia Row.

Bob Kraushaar is mixing tracks with **Robbie Williams** at Whitfield Street studios. (busy boy, Robbie!)

Rockfield studios is currently home to Midget who are recording album tracks with Dave Eringa.

Gabrielle is working on tracks at Eden studios with **Paul Weller** in the producers chair.

Britannia Row is host to Emm Gryner who is recording an album with producer **Warne Livesey**.

Roland Orzabal is self-producing his latest solo album at his very own Neptune's Kitchen Studio.

Stairwell are at Jacob Studios demoing material with producer Lenny Franchi.

Tony Doogan is producing tracks with Hefner for their debut LP at Ca-Va studios in Scotland.

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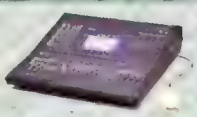

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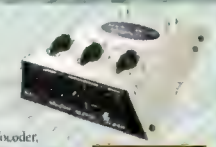

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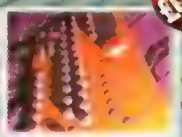

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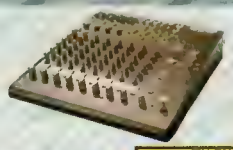

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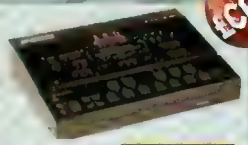

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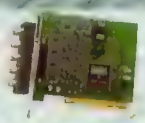

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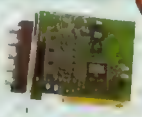

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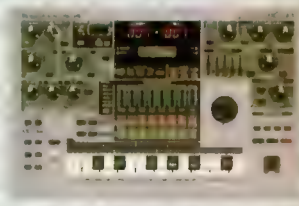

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PLAYT

● Rob Playford

Check out Rob Playford's exclusive remix of E-Z Rollers' 'Tough At The Top (Timecode Remix)' on the CD

His production credentials were established with Goldie's *Timeless* album, but Rob Playford continues to push the boundaries with his own label and a new album. *Nick Serre* visits him at his new work-place, the former Trident Studios

"We're surfing on the top of this wave and everyone else is just behind that wave being pulled along in a nice boat and trying to catch up," claims Rob Playford. And with justification. As co-producer of Goldie's seminal drum & bass foray, *Timeless*, and now *Saturnz Return*, he's a man who knows how to reinvent the rulebook. "You have to start somewhere," he explains, "but sooner or later when you're really into the music, your mind starts to actually think that way. It's like when you talk another language and you start to think in that language, that's when it becomes natural. So then you're in a position to do the same as anyone else on that wave." The wave is the culmination of knowing a music scene inside out. Living it. Breathing it. And, most importantly, completely absorbing it.

Rob Playford's inherent love of dance music production started early in life. As an influential DJ in the mid-'80s and early '90s, he pioneered the Moving Shadow label, and penned the anthemic 'Waremouse', under the moniker of Two Bad Mice. A roving reporter named Goldie, who was making a television pilot, interviewed Rob. They'd both been on the scene for a while, and their meeting sparked off a collaboration that resulted in the epitome of drum & bass excursions, *Timeless*. Rob and Goldie paired up again for the harder-edged *Saturnz Return*, taking drum & bass to yet another echelon. Always one step ahead of the game, the album once again demonstrates the duo's sometimes anarchic attitude, along with their unrivalled success as drum & bassers extraordinaire.

"Basically I started off as a DJ," muses Rob. "That was around '85-'86 time, when I had just left school and I got into the style of music that was around at the time and became eager to mix, and ended up going in for competitions and stuff. The whole technical side of DJing really appealed to me. More than the music, at the time, but then obviously when you're playing you start to pick up on the music. DJing was a big part of my life for the following three years."

But the DJing lifestyle wasn't always easy – the scene wasn't without its detractors. "I had to stop it for a while as that was the time all the illegal acid house stuff was around," he remembers. In retrospect, this may have been advantageous for Rob; it pushed him into taking a slightly safer step (legally anyway) into record production. "At the time I thought that if I could DJ the stuff, I could probably make it myself. House music is fairly simple, so I thought I'd have a go. I already had a keyboard so I hooked it up to my Atari with a sequencing programme and I was away."

Obviously finding another forte, Playford quickly adopted the studio-based ideology, and shrewdly invested in more equipment for his productions. "The next thing was to buy a sampler, and that was a big step," he recalls. "I had a good job at the time – I was a software engineer. Nothing to do with music, but it kind of paid for my hobbies and also helped me to buy nice bits of gear like the sampling set. I started making my own tunes from then, really.

"I was influenced by the stuff I'd been DJing with. It was made for that market. I'm not a musician so it was more like 'I like this style and I can make something like this.'" Rob sees no disadvantage in being a non-musician. "House music in general is engineers' music, really. It started with engineers using studio downtime to work on their own tracks, and they weren't really musicians. It's the same idea now, but it has branched out so much that live musicians and all other elements are being used to create an ever-developing genre."

Producing music was all very well for Rob, but, ever the entrepreneur, he also took the initiative to set up a kind of ad-hoc distribution arrangement, having self-financed the duplication of his productions onto vinyl. "Once I had got the tracks on DAT I was very interested in going through the whole process of record manufacture," he explains. "I found out how to go about getting something on record. I found out where to get the pressing done and where to get some labels made, and so on.

"I did all of that and ended up taking the records around to the shops that I was buying tracks from anyway. There were about five or six different shops I would go to for different styles. So, I would take a copy in there and play it to them and they were like 'Yeah, have you got any more?' so I'd go back to the car and get some. They'd take a box and I'd go back a week or two later and they would have sold them. That was really a pleasant surprise; I never thought I'd sell quite as many as I did doing it that way!"

The rigours of distributing his own records quickly took their toll on Rob though, and made him seek alternative routes for getting his music to the masses. He explains "It was never planned out to be a whole entrepreneurial business. Really it was the excitement of people actually wanting to buy something I'd created that was the driving force, not the idea that I could make a lot of money out of it. By the time I'd pressed up the second record I had had enough of driving round London and collecting the money, so I tried a distribution company."

An Allen & Heath Saber desk resides at the former Trident studios

"I thought that if I could DJ the stuff, I could probably make it myself. House music is fairly simple, so I thought I'd have a go."

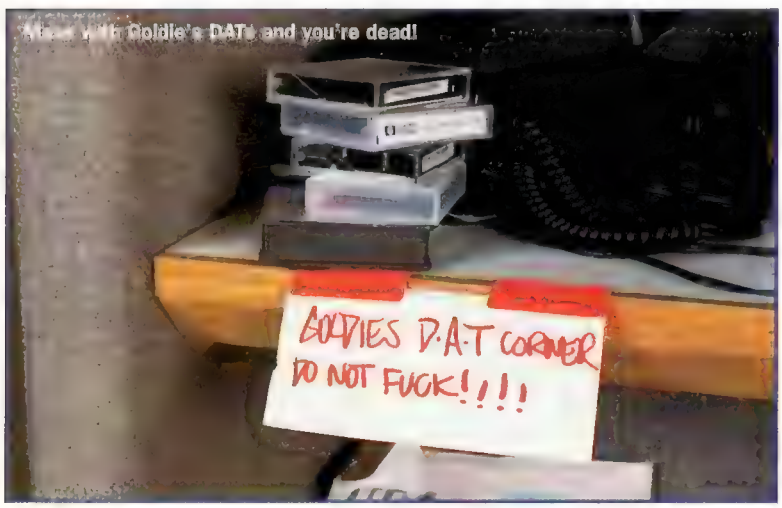
The first step was to set up a name for Rob's company. The company was to become Moving Shadow, but initially, Rob solely used a logo, realising the impact a striking graphic could have on prospective record buyers. "The first two EPs that I put out weren't on a label, but by the time the third one came along I was looking for some kind of identity," he recalls. "There were some labels around at that time and you always knew they had good stuff. It was more to do with the actual logo rather than the name of the company. Similarly, at clubs, you'd hear something cool, and try to catch a glimpse of the label on the record. So I was concerned about getting that kind of identity for it, along with an icon that people would recognise. A friend of a friend of mine came up with some ideas, including Moving Shadow, although it didn't have a name at all then, it was just a logo. I liked the logo and it is that that has more impact, really."

Moving Shadow was set up in 1990, and by quickly taking on-board collaborators, Rob soon had an impressive roster of successful artists. "There were loads of other people I knew, either from DJing, or just friends of friends with similar equipment and background. Some of them were from a musician background, and the next twenty-odd releases on what had become Moving Shadow were me collaborating with various people."

Perhaps the most important collaboration was with future drum & bass legend Goldie. Rob explains how they hooked up: "The Goldie thing was different to what I'd done before. Moving Shadow had got to be a renowned label of the time, and there were other labels around, including Suburban Bass and Reinforced. Everyone in the scene and on the different labels knew of each other but didn't actually know each other, so you could meet each other in a club and not know who you were talking to, which was strange."

But it was a specific track that caught the Goldster's attention. "There was a track we did as Two Bad Mice called 'Waremouse'," Rob elaborates, "and when Goldie had heard that, at Rage, down at Heaven, apparently he decided he wanted to make a similar sort of stuff. He hadn't done any music at that point but he was well into the scene. We didn't know about this for a year or two later, but then he actually came to interview us as Two Bad Mice, simply because of that tune."

At this point, Goldie was a would-be TV presenter, and as Rob reminisces, "He was doing a pilot for a TV documentary. I don't think it came to anything, but he did a 15 minute edit of our bit, and it was great. We found out we had a lot in common. That's when I met him properly, although prior to that we'd had him do a remix for us, and vice-versa, but we had kind of communicated indirectly through other people." A common occurrence in the world of underground dance music perhaps? "Absolutely," he replies. "That goes on a lot; you hook up with people who are into the scene, as well as people who are already producing stuff, but the best collaborations always seem to occur with people who are into the scene primarily. They bring so much more validity to the proceedings, because you've got those shared experiences."



Things naturally led to the pair working together on tracks, culminating in the seminal *Timeless* album. Rob takes up the story: "Once we'd done the TV thing, we decided to get together and actually do a track together. That was called 'Fury', which we released on Moving Shadow right at the end of '93. While we were doing that, it sparked off some ideas in Goldie's mind. We were working from scratch in the studio, rather than exchanging tapes, so he'd see what I was doing and say, 'Can you make it do this?...' so I did, and added, 'We can also do this, too.'

"That's the glory of being hands-on in the studio. We'd just go to and fro through a whole building process, and just step up levels, like on *Donkey Kong*!

3

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It was a huge learning experience for both of us. That made us both really excited, and we knew it could be a great working relationship. 'Fury' had basically sparked off some ideas, but this was really the beginning. Next, we started on a track called 'Timeless'; we thought we'd make it long. My idea was that it should be 40 minutes, because that was the longest it could be due to the chart regulations at the time. The system I was using at the time was C-Lab, and at the speed and the tempo that the track was, I could have only got 34 minutes on. So at the time, that was a bit disappointing. As it happened it came to a natural end at 21 minutes, with all the elements there, so we were happy to settle for that. It really was perfect from start to finish. It was a similar approach with the rest of the *Timeless* album. Once the album deal was sorted we just went into it with loads more fresh ideas."

One key element in the Goldie/Playford productions was the incorporation of live musicians for more of a sonic edge. Rob explains,"We started off doing some sessions with live musicians, around the time that I upgraded to a better system, and that led on to even more things I could do, which were previously unavailable. I got ProTools, and that really gave the flexibility we needed to record loads of live musicians and then edit it to what we needed. We recorded drummers, bass players, and so on, and then constructed tracks that were actually based around that, but still our style."

"And for my next trick – watch the mixer levitate as I remove the racks from each end..."

Of course, having a non-musician directing musicians can be a strain, but Rob's approach worked ideally. "We directed them from the head really," he says, "more than in musical terms, and conveyed to them the time and the feeling. A lot of the musicians we used weren't really into the rave scene or anything, but had been to soul all-dayers, so they kind of knew the vibe we were coming from. So, I was like 'Cast your mind back, remember those kinds of tunes?, play it like that.' That's not necessarily how we were going to use the material, but that's how we wanted it to be played.

"By the time I'd pressed up the second record I had had enough of driving round London and collecting the money, so I tried a distribution company."

"That's the approach we would have taken if we had been sampling most of the stuff anyway, but it just gave it a brilliantly live edge. It's so creative doing things from scratch that way. If you're using segments of records, you know that it's all been through so

Ziggy played guitar...but went drum & bass insane

"You talking to me?"

Rob got to work with David Bowie on *Saturnz Return*, in circumstances that were very appropriate, as Rob explains:

"It was a brilliant experience working with David. He used to record here 25 years ago. This used to be Trident Studios, and most of his material between '68 and '74 was done in that little live room where we did 'Truth'. The cover picture for *Ziggy Stardust* was shot just round the corner, and there was quite a sentimental vibe on all our parts. He was like, 'Wow!', and it was really quite a choker.

"'Truth' was actually one of the last tracks to be recorded, and he'd been popping in the whole time throughout the recording of the album seeing what we were up to, so he had a distinct feeling for the ideas. He'd also play us stuff that he had been working on during rehearsals. That was kind of funny, 'cos he'd play us some stuff that was pretty hard and bassy, then we'd play something we'd just finished, and he'd be like, 'Oh! fuck', and off he went.

"When we actually recorded 'Truth', he just went into the room and it was incredible to watch him doing it. Obviously we've worked with other people before, but he's a completely different person, as opposed to someone who just comes in to sing. It was like watching a performance, he completely got into the character and the piece. It was incredible, and very moving, seeing him there behind the glass, feeling the stress of him pulling himself into the character he wanted to sing it through.

"We kind of pieced together the way that we thought the track was gonna be and in the end, he came along and just laid it down the way he saw it. We'd got the track on the computer, all the backing was done on ProTools – blended effects, reverse pads and so on. We just gave the backing to him in the cans along with a lyric sheet, and he sang them as he saw fit. He was so adaptable 'cos it was something totally different for him. The way he sang and delivered it was just so in character with what we were trying to achieve. Originally, we were going to put drums over it, but it worked so well as it was, we thought it best to leave it. That was probably my favourite time throughout the whole album. When he went, it was like 'What are we gonna do now?'"

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many processes already, and it becomes very hard to detach yourself from the original. Even now I'll hear tracks that some of the younger guys on the scene are doing. They're ripping up records, and some of them are quite special to me. A lot of the classic '80s stuff, and it's like 'Oh, no, why are they doing that?' There really is some terrible stuff being done. But to them it's no different than when I was just taking things that I didn't really know that well, and thinking, 'That sounds cool.' It's a generational thing, I guess."

With *Saturnz Return*, the process was taken a step further. Always experimenting with ProTools, Rob made extensive use of TDM plug-ins to "really mess up the sounds". He points out the differences: "For *Saturnz Return*, it was a case of taking the live musicians and then going in deep with the processing. With *Timeless*, we recorded them; it was very obvious what the instruments are. They were put down on the track in style of how we do things. On *Saturnz Return*, it was more a case of using the processing to give the whole thing our stamp of identity – trying to take it all a step further."

Rob is clearly pleased with the results. "The whole thing goes very extreme, it goes in panavision, as Goldie describes it. *Timeless* brought up to that first level, and with *Saturnz Return*, it has just flared. It is extremities, really, and we really went overboard. There's some processing in there which is just ridiculous, but that's the way we try to push things. With just about all the tracks, there's excessive processing. With the bass, for example, Tim, our bass player, brought in a load of pedals, which aren't really our kind of thing usually, but that gave an extra creative tool as well. It got to the point where Goldie and myself were twiddling with the pedals whilst Tim was playing the bass. So, you've got all three of us creating the sound live. The other side of that would have been just to record it flat into ProTools, and then use the plug-ins to create the effect, but having that live feel really gave it the edge. Then we put it in ProTools and messed about with it anyway."

Rob is a huge fan of digital technology, and manages to capture an organic sound without resorting to analogue tape. "I hate tape, just the fact that it breaks and it's really expensive and if you want a good quality tape machine it's bloody expensive compared to a Mac with all the Pro Tools stuff in. Even including the plug-ins, it's still good value," Rob contends. "We don't necessarily need that special something that you do get from tape, in fact it's quite annoying."

Rob lets us into the secret of obtaining gritty, organic productions with an example: "There were some breaks that we got re-drummed for *Saturnz Return*. The kit was all the original stuff, we got the drummer Trevor Morray to drum all these bits that we wanted. We got him to play along with the programmed breaks that we had done. We recorded that through his Neve desk, which is lovely, and straight to ProTools. It went through beautifully. The idea was then to come out of Pro Tools and basically put it down onto two-inch, which we did on some of them, and then back into Pro Tools, and also then down onto quarter-inch. The plan was then to put it down onto acetate or actually get it pressed onto vinyl. The whole effect should have sounded like it was made 30 or 40 years ago, and it would have done, but we didn't have time to do that. We didn't actually need to, 'cause the stuff we were doing was that hard, and we didn't actually need to go the whole hog."

On the subject of the future of drum & bass, Rob is enthusiastically animated. "I think that the whole scene is constantly evolving. Personally, I still call it house music, because it's still produced by engineers and non-musicians. That's the problem. Well I say problem, but that's what makes it difficult for everyone to get into it, no sooner have they cottoned on to the fact of 'right, you dance like this', and, 'Oh! that's a drum & bass track', then people are already on to something else.

"That's what makes it exciting for us 'cos we're always trying to come up with something fresh. Right from day one it was a competition thing, healthy though. There were all these different labels and different artists who all knew each other and went out to the same sort of clubs. You'd hear a tune and you'd like it so you'd get into the studio and do something back in retaliation. That's what it's like to this day, it's all competition, but it takes everyone a step further with it. When you really understand the whole scene, that's what makes it even more exciting, rather than people just thinking, 'Um, I think I'll do a bit of drum & bass.'"

"I got ProTools, and that really gave the flexibility we needed to record loads of live musicians and then edit it to what we needed."

Rob dabbles in other areas aside from drum & bass, though, and is keen to explore new ones. "I like slow beat stuff as well, there's a good tie there between that and drum & bass. I like being able to re-program beats and get some feeling into it, but at the same time I listen to plenty of hip hop and loads of soul and bits of jazz."

Rob's productions have kept him firmly on the crest of the drum & bass wave. And if his track record is anything to go by, he ain't gonna fall off...

A bird's-eye view from the DJ booth/chill out area

POW!

Nick Serre visits DJ/producer and remixer Paul Gotel's new state-of-the-art studio, where the emphasis is on versatility

RECENT CLIENTS

Nightcrawlers
Louise
Ca$ino
VapourHeadz
Kinane
Michelle Gayle
Eternal

"We pride ourselves on the ease of use of Pow!" maintains studio owner Paul Gotel. A producer/remixer and DJ who has worked with artists as diverse as Louise and Dave Stewart, Paul recently set up Pow! studios to expand his interests, which also include a record label and club promotions companies.

Paul has had a lucrative few years remixing and producing of late, and decided that the time was right to take the often unpredictable step of opening his own studio on a commercial basis. "I built this studio bearing in mind exactly what I look for when hiring a studio," Paul explains. "Since I'd been earning pretty well, I decided there was no point in cutting any corners whatsoever." The resulting Pow! complex, housed in a West London warehouse, is a dance producer's dream; the dedicated programming area, DJ booth, spacious control room and a club-like atmosphere are fundamental factors in attracting the repeat custom of artists of the calibre of Monie Love, Nightcrawlers and VapourHeadz.

Paul is well-versed in using many of the major studios, but has become disillusioned with the way some of them operate. "The thing is," he is ardent to add, "that so many of those studios are not geared towards doing dance productions. They'll have a huge live room and no space in the control room, which is where the bulk of dance production work is carried out." To this end, Pow! offers a spacious, dual-level, daylit control room, which can accommodate numerous people with none of the cramped-around-the-mixer scenarios which are still prevalent in older control rooms.

The centre of the control room is home to the extensive programming area, replete with Power Mac

The largest Quested HM415s in Europe

running ProTools and Logic Audio as well as an abundance of other software packages, a plethora of Akai samplers, and classic as well as up-to-the-minute sound modules.

Ease of set-up is high on the agenda for Paul. This means that neither he nor his fee-paying clients waste valuable time rewiring the studio to their own specifications, as the vast majority of any artists' needs are supplied. "What I did when I was setting this place up," Paul elaborates, "was to contact as many engineers, producers, and remixers as I could, and ask them to give me a list of their 'dream studio' equipment list. I got loads back, and with exception of really esoteric gear, I bought virtually everything on the lists."

One of the main decisions in the building of the studios was choosing a console, and Paul is overwhelmed by the newly- installed Soundtracs Jade desk. "Again, it was a case of gauging other engineers' and producers' preferences," Paul elaborates. "The consensus of opinion, which I tend to agree with, is that the Jade is just so straightforward to use, plus it's robust and it sounds like a dream. Combine that with the automation, and it really is a hard one to beat. I think that even if I could have afforded an SSL, for example, I rate the Jade far above those kinds of consoles for sheer usability. Even if an engineer doesn't know the console completely, it's so easy to get accustomed to. Unlike Neve's and SSL's, which may take a few days to get used to, this desk just does the job. Simply and effectively."

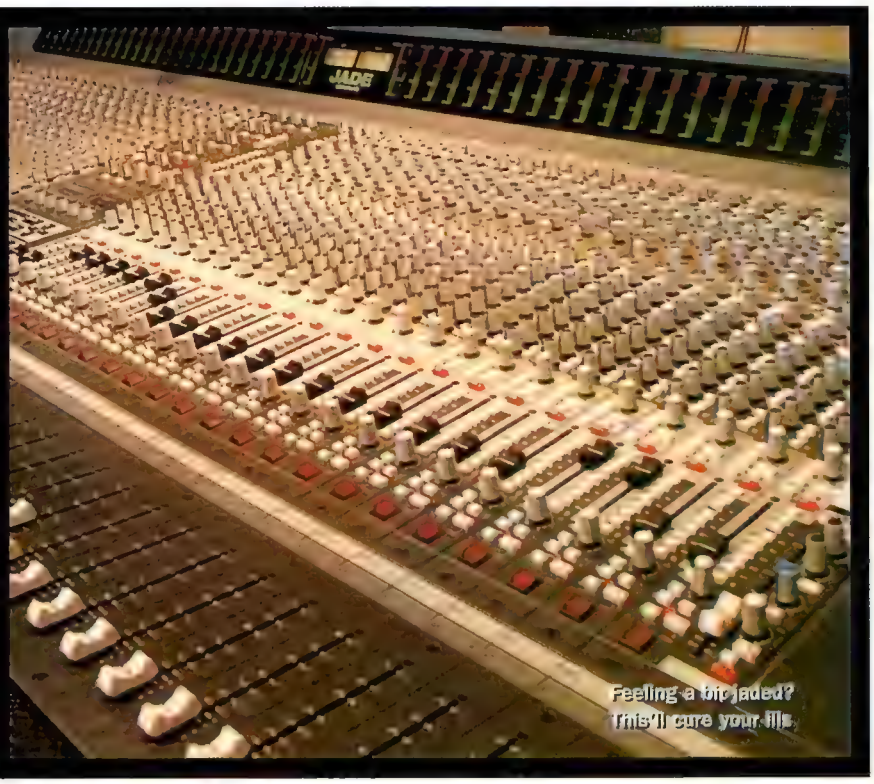
Paul also looked at Otari and other desks, but still feels that they are a little too esoteric, and that there aren't that many engineers who know them. The ensuing scenario is what Paul humorously refers to as "manual city". Getting the studio up and running as quickly as possible is something Paul is keen to stress the importance of. "I've been into so many studios where you can spend half the day wiring in all your synths, and routing the desk up, that by the time that's done, you're virtually out of creativity. What we've done here is provide virtually all the synths that people are likely to need, as well as extensive patchbay systems, so that any additional gear can be hooked up with the minimum of fuss." Added to this, the on-hand skills of wiring expert Conor Caulfield mean that any routing and cabling problems can be repaired instantly.

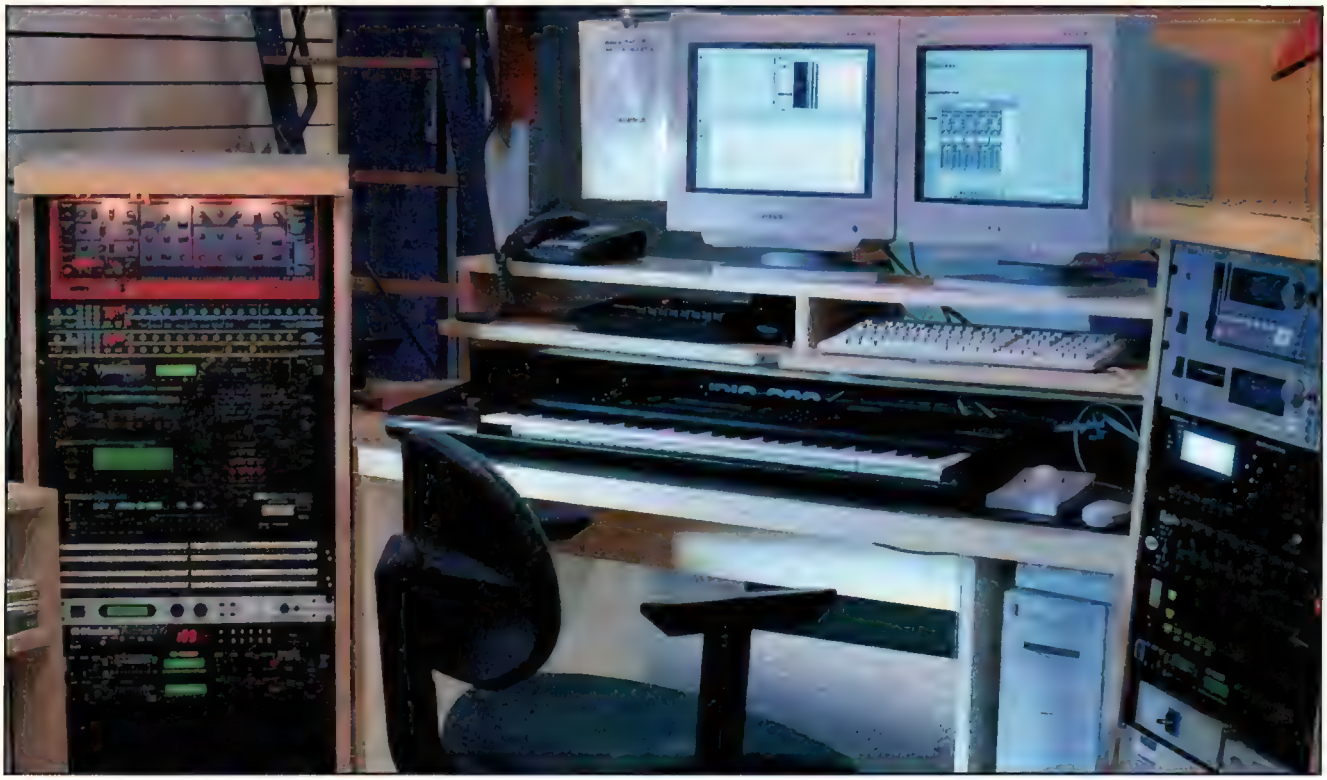
Further emphasising the dance-based ethos of Pow!, the mezzanine level of the studio features a 'chill out' area, as well as a DJ booth, giving the studio a club atmosphere. The monitoring used reflects the sentiment behind this. As Paul enthuses ▷

THE KIT (selected)

Main Studio

- Soundtracs Jade 48-channel Production Console
- Quested 4-way Active Monitoring System
- Studer A800 24-track
- Lexicon PCM 90 and PCM 80
- Eventide H3000 D/SE
- Power Mac 9500 180 MHz 96 Mb Ram
- Emagic Logic Audio
- Cubase VST
- Akai S3200 16 Mb and Akai S3000 XL 18 Mb
- Kurzweil K2500R
- Mutronics Mutator 2 Channel Filter Unit
- Focusrite ISA 21 5 2 Channel Mic Amp/EQ
- SPL SX2 Vitaliser
- JoeMeek Stereo Compressor
- JoeMeek VCI Studio Channel Compressor
- 2 x Drawmer DS201 Dual Gates
- Roland JV 1080, Super JD 990, Super JX MKS 70, Juno 106 and MC303 Groovebox
- Korg Prophecy and M1
- Clavia Nord Rack
- Novation BassStation and DrumStation
- Quasimidi Technox
- Oberheim Matrix 1000
- Fatar Studio 900 Master Keyboard
- EMU Vintage Keys plus





The comprehensive programming area

as we walk around the nooks and crannies of the control room, "The sound from the Quested monitors is great in all parts of the room. There's no loss of any frequencies, so you get the best of both worlds: a club atmosphere combined with a great and even sound."

The Quested monitors in question are a pair of HM415 4-way active beasts, with VS2205 nearfields. Paul is very much of a mind that the monitoring system and the room must be compatible. The studio was designed by Andy Munroe Associates, before Quested came in to modify the HM415's to the studio's specifications. In fact, the Quested team specifically requested that Pow! be one of the few studios in Europe to have the system installed. Paul muses "Quested had heard about the slightly quirky nature of the control room (the split level and non-standard shape) and were keen to rise to the challenge. They certainly did, and the sound is the best I've heard. I've tried out a lot of different monitors over the years, and I can safely say this is the best set-up I've used."

Perhaps surprisingly for a dance-oriented studio complex, Pow! still retains its trusty Studer A800 two inch 24-track analogue tape machine. Despite the ProTools and Logic Audio capabilities of the studio, Paul is adamant that the Studer is an essential piece of equipment. "Even software packages like Logic Audio are geared towards people who are used to working with tape," he affirms. "Lots of people are used to working with two inch tape, and have an affinity for the warm compressed sound it produces. For me, especially if I'm recording, for example, a ten part vocal, it makes much more sense to record onto analogue tape, and mix down before committing it to the ProTools or Logic Audio system." The best of both worlds, one might say, and an attitude that Paul has obviously taken on board. "We really are very flexible here," says Paul. "As well as offering both digital and analogue recording, we've also got both old and new synths and processing gear. A lot of the gear is my own, built up over the years, which I know a lot of dance producers like to use, as well as all the latest gear."

The ever-so-friendly Pow! team

A live room is provided in the main studio as well as a vocal booth, and tie lines to the lounge area. "The live room isn't huge," admits Paul, "but when you're mainly involved in dance music it's a lot more useful to have a spacious control room that people feel comfortable in. So many studios still seem to cling on to the notion of having cramped control rooms, and it just gets frustrating." The programming room is equally as versatile, and is ideal for demoing before heading into the main studio. Indeed, this is exactly what a number of the already impressed repeat clientele have been doing. Paul concludes, "We are getting a lot of repeat custom here. People love the ease of use, the versatility, and the creative atmosphere. As I've said, I built the studio from a client's point of view, and I'm happy to say that it seems we've got it right." TM

More from: Sarah Woodford, Studio Manager, Pow! Studios, Unit 11, Impress House, Mansell Road, London W3 7QH Tel: 0181 932 3033 Fax: 0181 932 3031

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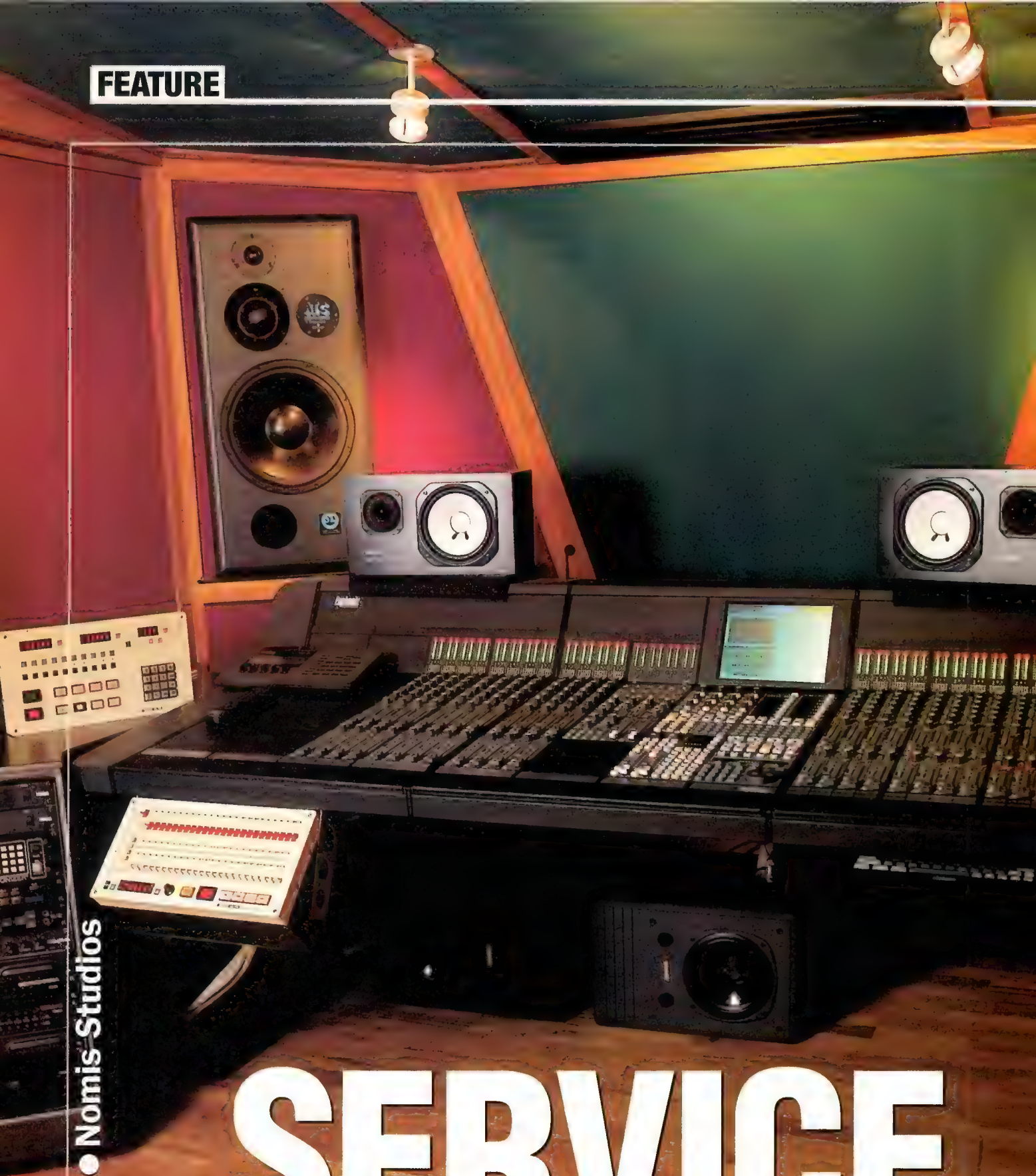

• Nomis Studios

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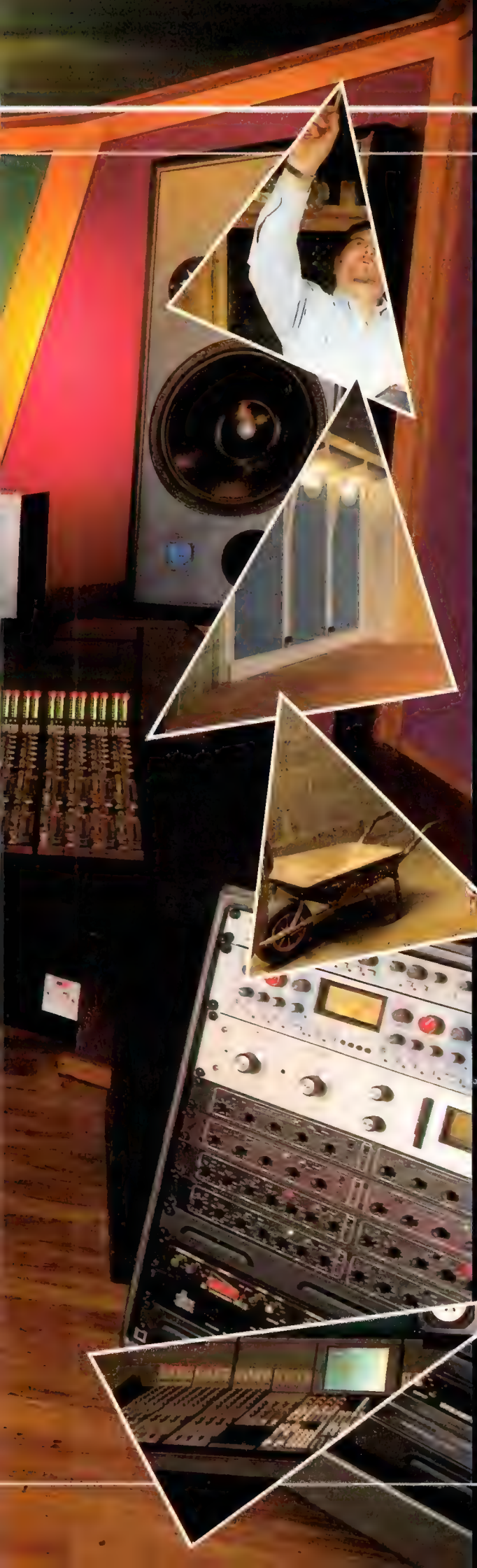

You don't have to be a virtuoso or drop-dead gorgeous to be part of the music business... Bob Dormon looks at an essential element of the recording industry, one that provides an alternative career option

The jobs on offer in the music industry are more or less divided in two. On the one hand you have the glamour profession that is the preserve of the artists, session musicians and a handful of high-profile producers. Interestingly, studio managers also manage to cling to this glamour aspect of the business, when it's fair to say, the only thing that most of them can play is the radio. On the other hand, the industry offers us the 'noble' professions occupied by sound engineers, hire companies, die-hard tape-ops and of course, the cavalry, which are better known as maintenance engineers and technicians. It is the duties of the latter that are perhaps the most easily recognised, but least understood.

While the thought of slaving over a hot soldering iron may not sound particularly inspiring, the job of a maintenance technician has many advantages over a number of those mentioned above. For one, the job is fairly secure if you know what you're doing, and the hours are rarely as lengthy as those endured by recording engineers and tape-ops. You may have to put up with being on call from time to time, but if you've a genuine interest in electronics and can read a circuit diagram, then there's every chance that you could jump the queues of tape-ops fresh from college and land yourself a salaried job in a studio that also recognises the concept of sleep.

To investigate what the job entails first hand, we spoke to Alan Smith, Technical Director of the massive Nomis Studio recording and rehearsal complex in West London. He's more than familiar with the task of maintenance and fault analysis and has a handful of assistants under his wing. Currently, besides all the usual duties, he's been overseeing the construction of a number of new facilities that he has helped design and specify. Certainly, more than just a job of restoring resistors on sad, smoky circuit boards don't you think? But more on that later.

Reasons to be cheerful

No doubt one of the reasons you read *The Mix* is because you're interested in the latest in music technology, and one aspect of the job of maintenance engineer is that you become intimate with such things. It might not be the most obvious choice for a dedicated musician, but if you find that you're fascinated by technology then you might well find the work appealing. Describing the tasks that accompany the role of maintenance technician, Alan Smith and his colleague Rod Wildman underline the fact that the job allows a level of security in a typically volatile area of employment.

Rod: "In theory, it's one of the only jobs in the studio where you don't have to work ridiculous hours all the time. Your pay is consistently better than other jobs such as engineers and assistants, as a lot of maintenance positions are in-house, PAYE [Pay As You Earn] which is an advantage over freelancing and Schedule D [Self Employment]."

Indeed, if you ever browse the back pages of the various freebie pro audio mags you'll find there's no shortage of ads for competent maintenance staff. Rod has recently proved this point, as he's departed amicably from his position at Trident (sister studio to Nomis) since this interview was held. Nevertheless, his words still hold true for this work.

But what about the glamour though? This is the music industry, so was there ever a time that either of them became the hero of the hour in the eyes of their artistic clients?

Rod: "I think that the percentage of people that work in studios and get their feet kissed is so small compared to the amount of people who set off with that intention. There's a lot of mediocre engineers out there and a helluva lot ▷

more crap tape-ops who'll never get anywhere. All you've got to look at is the amount of CVs you get at a recording studio from people who are willing to work for free. Even when I started off I never had to work for free."

How about an alternative approach then? Do you think that people can move from maintenance into sound engineering?

Rod: "Yeah, it's probably easier than the other way round, but I'm not sure that it's a good idea. But even to be a maintenance engineer you need to have a reasonably good ear. I mean some people's descriptions of faults can be quite vague."

Alan (chuckling): "Yeah, I tell you there is one fault which occurs three or four times more often than any other and that is 'Fucked'. 'This channel is fucked' is very, very helpful indeed!"

"You can't just be an electronics technician, you've got to have a feel for what is done in a studio and for why people would want something."

ATC 100 monitor in the Euphonix Room

Pick and choose

When maintenance staff reach a certain level of seniority, as in Alan's case, they have a say in the equipment purchased. Obviously, with such a responsibility in financial terms, commercial appeal and functionality, opinions are often sought from respected engineers and producers. But there's more to this than just putting together a collection of cool equipment, as Alan points out.

"You can't be just an electronics technician, you've got to have a feel for what is exactly done in a studio and a feel for why people would want something. After all, sometimes the requests you get and the things you are told about could seem absolutely crazy unless you know what people are trying to achieve. From that point of view you have to know how to operate the equipment, you have to know why a piece of equipment is being used, just as much as you have to have an expertise in reading circuit diagrams and being able to dive into bits of electronics.

"Sometimes it's just downright stupidity on the part of the engineer..."

A high proportion of the stuff you have to do is sorting out operational problems or misunderstandings in the way things are interconnected."

Is that due to a client's unfamiliarity with the studio?

"No, sometimes it's just downright stupidity on the part of the engineer!"

Alan and Boo play cloud shapes in the Euphonix room

The Producer's Room in need of furniture: do Ikea do SSLs perchance?

Smoking pots

Obviously, that's not always the case and equipment does fail from time to time. Both Alan and Rod find that the SSL console at Nomis is reliable and is made in such a way that it's easy to maintain. If a channel fails, the modular design enables them to quickly whip it out and swap it over with one that isn't being used (or a spare) with the power still on, as banks of eight channels can be turned off. Alan mentioned that SSL guarantee that you can even remove certain channels with the power on. It's a stark contrast to home recording systems that are turned off when not in use, but there are reasons why professional consoles are better left on than turned off, as Rod explains.

"If you power down the whole desk (and certainly the computer as well), then it all cools down. Consequently, everything shrinks, which causes things to move: all the edge connectors which had been sitting there nicely running at the same temperature begin to creak. So you find bits of the desk don't work when powering up again, so you have to pull the channels out and stuff them back in again to reseat them, which usually does the job."

While the SSL gets the thumbs up for ease of maintenance, many years ago Alan worked as the

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maintenance technician at Jacob's Studios, a residential facility with both Neve and SSL consoles. So how did they compare from a maintenance standpoint?

"From a pure electronics point of view, the Neve console has considerably more sophisticated engineering than the SSL. The SSL is like a Cortina or Sierra kind of vehicle. It's a very well built, relatively easy to maintain, and proficient-sounding console. The Neve, on the other hand, is a bit like a Ferrari or a Rolls-Royce.The design of the Neve is quite a step above that of the SSL. You can suss out what's gone wrong with an SSL quite quickly, whereas it can take quite some time to work out what's gone wrong with the Neve, because they use very sophisticated techniques of having active elements in feedback loops and DC servoing. So you can have a chip blow up, but all this circuitry around it makes it invisible except for the fact that you're getting an extra 0.1% distortion. Whereas with the SSL, it either works or it doesn't."

Rod summed up the difference as being like an engine management system with fuel injection on the Neve, and a carburettor plus a set of points on the SSL. And as we all know, both approaches work, but tackling them when they are faulty is a different matter. Alan says he can quite easily get by with a multimeter for checking faults on the SSL, but is forced into using an oscilloscope and setting up test patterns when performing sonic surgery on a Neve V Series console.

So besides the occasional abusive phone call from an engineer in a panic at 3am, how does Alan get briefed on problems that have developed in the studios?

"All good recording facilities have a maintenance book where faults are logged, usually by the assistant. So I'll come in in the morning and try and recreate the fault as described. Then I'll determine

Room For Improvement

A [illegible] new rooms are being [illegible] on the same site as [illegible]. The work is progress in the [illegible] Mastering Room' shows a floating concrete shell designed to prevent any noise getting in or out of the work area. The techniques applied to achieve this involve using [illegible] of solid brick and concrete together with varying cavity sizes. The cavity between the inner wall of this room and the separating wall are different to the cavity size between the inner wall of the adjacent room and the other side of the same separating wall. The object is to reduce the likelihood of standing waves amplifying and transmitting from one area to another. Furthermore, there are no parallel walls. They are all angled away from each other so that the cavity varies in width across any given length.

Ideally, the floor in this basement area would have been completely excavated down to the bedrock and a new concrete 'island' cast in its place. However, the area has quite a depth of concrete to it, which would have been prohibitively expensive to remove. Alan, in consultation with project architect Steven Foster, elected on an alternative compromise. The floor around the periphery of the room has grooves in its concrete about three inches deep and a half inch wide made using a stone cutter which were later filled with rubberised mortar, which has a different density. This appears to be enough to help contain the transmission of sound along the floor into other areas by breaking the continuity of the concrete as a whole.

Other rooms in the basement include a Publishing Room, which is a joint venture demo studio with Warner Chappell. Even though it's called a demo studio, by the time you read this it will be fitted out with two Otari RADAR hard disk recording systems providing 48 tracks of digital recording. The room also has a sectioned-off live area which has been designed to be dead at one end (for vocals) – this section can be partitioned off – and live at the other end for instrument recording.

Before: the Publishing Room

Before: the Euphonix Room

And over on this studio is a facility that has been put together for producer Dennis Rhodes (Formal, M/A/R/R, FLE and Alexander O'Neal). Originally he had a small production studio operation at Nomis, but he's moving down here to this larger mixing studio with its separate live area and will be doing as much pre-production as possible. The room is nearly complete, but there have been some last minute changes of heart regarding the equipment that will be installed – that's producers for you!

Upstairs, the newly refurbished Studio Four has a Euphonix CS2000 console installed where an Amek Einstein once resided. The Euphonix is a unique desk as it uses digital electronics to control what is basically an analogue console. What you get are the benefits of digital assignability and automation, with the analogue sound and interfacing that many engineers prefer. The CS2000 is a 72 frame console with 56 channels, but each Euphonix channel has has six inputs and five outputs on it. So absolutely every piece of equipment in this room will come up directly on a channel somewhere. Alan designed the 'layout' of the console (where particular equipment appears on the desk) so that 'templates' (in Euphonix-speak) can be arranged for different session modes. Record mode, for example, automatically connects the desk's mic inputs to the mic lines in the live room, outputs will go directly to the tape machine, particular auxiliary sends get configured for headphone mixes and the channel's built-in dynamics are set up ready for recording.

Having tried a number of monitors, Alan settled on ATC 150s which he described as "spiky and perfectly suited to the room". The tape machines available are an Otari MTR-90 Mk II (analogue 24-track) and a Tascam DA-88 (modular digital 8-track). There's also a stock of outboard effects and MIDI gear.

The SSL console: easy to suss out

Alan Smith getting ready to 'cut' a CD in the CD Room

whether to find out what's wrong with the circuit or whether it's quicker (if there's more faults to be dealt with), just to take that card out, put a spare in and look at it later. There are certain practices you get used to."

The Right Stuff

So, with CVs galore piling up from would-be tape-ops willing to work for free, what qualities does Alan feel makes for a good maintenance technician?

"You have to have a patient temperament and a broad interest in recording studios and music. You don't necessarily have to have a massive amount of formal electronics experience, but certainly you need to have a good working knowledge of electronics such that you can look at circuit diagrams and see what's going on – although you don't have be fully aware of why certain designs are done."

Presumably, an inquiring mind would help so you develop those skills? "Yes, and also an ability to learn from experience and glean

"The Neve is a bit like a Ferrari or a Rolls-Royce."

information from other people without having to have it formally presented to you. Get to know each of the engineers and their particular way of working. You need a very broad appreciation of everybody's role in the studio, because you're very often the person that comes in and pulls together a lot of what is happening operationally."

So what are the cold hard facts about this kind of work? "Be prepared to do a lot of very mundane, routine, unchallenging work. Be prepared to put up with a lot of very, very unfair criticism. At the end of the day it's not your fault that a switch has decided to break down. What could you possibly do? Be prepared to try your hand at just about anything that crops up. You can't determine your role very easily."

You can't walk away from it...?

"No, you can't." TM

PC News, advice, and software for PC users, compiled by Ian Waugh

NEWS Intel up to speed

Intel have introduced the 333MHz Pentium II processor for desktop computers. It is the first to be built using the company's advanced 0.25 micron process technology, which enables high-volume manufacturing to offer higher processor speeds. The 333MHz processor offers a 10% increase in speed over a 300MHz chip.

Rumour has it that Intel may be forced to cut the price of the Tillamook 200MHz chip. This is a low-power chip designed for notebooks, but a drop in notebook demand, particularly in the far East, may have left Intel with a surplus of chips that could find their way into desktop machines. The knock-on effect of falling chip prices could mean even lower priced PCs, and we could even see 300MHz Pentiums under £1000 by the end of the year.

Good news for consumers, perhaps, but some industry pundits fear that this could squeeze some suppliers out of the market. As prices fall, so do profit margins, and while the big companies may be happy to reduce profits in return for increased market share, these are companies whose main business is not in low-cost PCs and who could even stand a small loss in this section of their PC division.

Companies whose main business is PC manufacture will struggle to compete. Even the anticipated increase in sales is unlikely to compensate for the reduced margins. So, as you watch low-cost PCs leaving the shop this year, keep an eye out for PC manufacturers leaving, too.

Free browser

If you've been following the browser wars you'll know that Netscape have been having a tough time of it. Faced with Microsoft giving their Internet Explorer browser away, Netscape have finally decided if you can't beat 'em, join 'em, and is doing likewise. Not only are they giving away the Netscape Navigator browser, but the whole comms package, too, in Communicator.

If you're worried that IE may take over your machine, screw your comms settings and play fast and loose with other bits of software you have installed – and it will – log onto Netscape's site (www.netscape.com) and do the download thing. But do it at the weekend, 'cause it's big.

Hyperactive

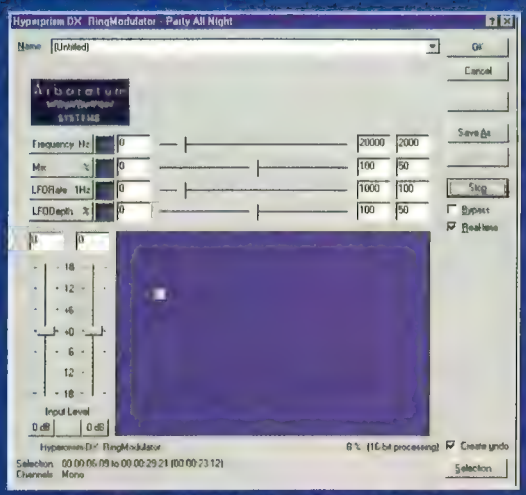
If you're an avid digital effects watcher, you'll be aware of Arboretum's Hyperprism. It's a collection of 20-odd effects, some subtle, some not so. It made a name for itself on the Apple Mac with its infamous Blue Window which allows you to control the effects in real time by dragging the mouse around the window. It's more effective with some effects than others, but it's a neat way of making changes in real-time.

Well, the program has been ported to the PC in the form of Hyperprism-DX. It's DirectX-compatible and works with programs such as Sound Forge, WaveLab, Cool Edit Pro, Cakewalk Pro Audio and Cubase VST.

The effects are divided into five categories: filters; modulation; delay and reverb; stereo processes; and miscellaneous effects. The latter category includes useful compression, useful pitch shift (but without any formant control), and the interesting but arguably less-useful SonicDecimator, which reduces your carefully-crafted 16-bit material into something which sounds like it was recorded with a megaphone on a snake farm during a lightning storm. And to think that effects like this came built into the equipment we older folk were buying twenty years ago...

Those nice people at Arboretum have released a demo version that contains three fully-functional effects – Echo, Vibrato and Ring Modulation. There's an on-line manual in HTML format (you can read it with any browser, not just Internet Explorer), which explains how all the effects work. It includes little diagrams so you can see how the cut-off points affect the frequencies in the filters, for example, and how the comb filters work in the QuasiStereo effect.

The Hyperprism-DX demo is on the CD, and can be downloaded from www.arboretum.com



Hyperprism's Ring Modulation effect playing fast and loose with an audio file in Sound Forge

One of the major complaints about Microsoft is that they draw you into using their products. There are several programs out there, for example, which need IE in order to run – there's an example coming up next – which makes lots of people uneasy.

Netscape's Navigator and Communicator – the war is over. Get yours free now

The word on the street

Have you ever read a semi-technical article and come across a word which wasn't properly explained? It seems to be happening more and more, and I'm convinced that there's a little chap in every company's R&D department whose job it is to think of obscure terms and to devise names which can be turned into tortuous acronyms.

To the rescue comes the *Microsoft Press Computer Dictionary Third Edition*. It contains over 7,600 techie terms, 300 illustrations and diagrams, and includes extensive internet coverage.

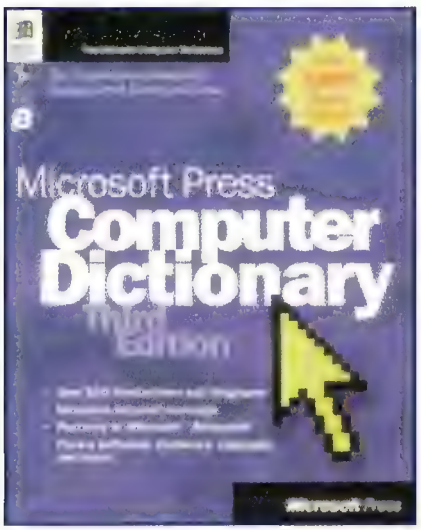
Inevitably, there will be terms that don't appear in a dictionary such as this. For example, it doesn't have anything to say about Intel's Triton chipsets – VX, HX and TX. The entry for RAM doesn't refer you to DRAM or SDRAM, although they are both included. And what's a DIMM or a SDIMM? It won't tell you that. Okay, so it's not exhaustive, but it is reasonably comprehensive.

Software and samples for PC are on the CD-ROM cover disc – see page 8 and 9 for details

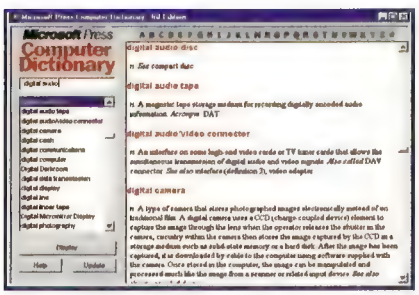
You also get a on-line version of the book on CD. The installation is rather naughty because it requires Internet Explorer in order to run and if it's not on your system, it will install version 3.02 for you. How nice. I keep IE version 3 on my hard disk in an attempt to pre-empt such invasive manoeuvres which, alas, seem to be increasingly common.

You can search the CD by typing in a word, or you can start at any letter and browse. However, it misses a golden opportunity because the search only reveals the main entry. Wouldn't it be nice if you could search for all occurrences of a word or Hyperlink from one reference to another? As you can't, the CD is far less useful than the book – you can't read it in the bath, in bed, on the loo or on a train. Unless you have a portable. And then you have to boot it first.

I've been researching some techie things over the past few weeks and I have to say that the *Dictionary* has been very useful indeed. The alternative to looking up some acronyms and definitions would be trawling the web or posting a message on the net. **The *Microsoft Press Computer Dictionary Third Edition* is £27.99 from Computer Manuals, 205 Formans Rd, Sparkhill, Birmingham, B11 3AX. Tel: 0121 706 6000.**



The *Microsoft Press Computer Dictionary Third Edition* – lots of words with lots of explanations



The *Computer Dictionary* on a CD for those who'd rather point and click than turn and flip

Imagine that again

Last month we reported that Mark Harrop of Uncertain Music Corps has produced a Koan-generated album called *Imaginary Friends*. After much heavy and protracted negotiation, we finally managed to wrestle a copy from him to put on our cover CD.

Well, no actually, Mark decided to place it in the public domain. The pieces include SoundBanks for AWE users, some of which contain vocals, and which are used in the pieces to amazing effect. It's a super collection and if you have an AWE card you simply must listen to it. That's an order!

Grab it from the CD or direct from the Uncertain Music site at: http://www.umcorps.demon.co.uk.

Sound Engine Plus

There's a myth outside the music biz that you have to have musical ability to make a record. Inside the biz they know differently. The fact is, there are many more people out there with musical ideas than with musical ability, so why not let the ordinary guy or girl have a go?

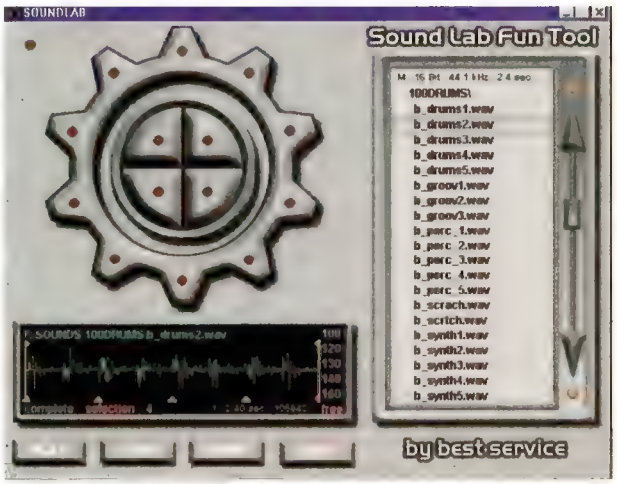
That's precisely the thinking behind Sound Engine Plus, which combines a set of ready-to-go samples with a MIDI sequencer to offer a music-making kit. The pack includes Circle Elements, the Sound Lab Fun Tool and Cubasis Audio Lite.

Circle Elements will be well-known to readers with long memories. It was actually one of the seminal sample construction kit programs released in 1995, and allows you to create songs from sample loops. Its main screen consists of two concentric circles divided into segments. You drop samples into the segments and they play in a loop as the play routine loops around the circle. Dead easy and fun, too.

Circle Elements has a few basic built-in effects but Fun Tool has more. You load a Wave file into it and click on a cog to reverse it, apply a filter sweep, a flanger, a pitch change, a harmoniser or bass boost. You can save the file and use it in Circle Elements.

Cubasis Audio integrates four tracks of digital audio with MIDI sequencing. You can construct a song from the sample loops in the traditional way, and as they appear as block on tracks, it's easier to visualise the song than it is in Circle Elements. You can also record your own and add MIDI parts. An all-in-one studio.

The package is very good value, and if your musical ideas exceed your abilities, or your budget, this is well worth exploring. **Sound Engine Plus is £39.95 from Time+Space, PO Box 4, Okehampton, Devon, EX20 2YL. Tel: 01837 841100. Fax: 01837 840080.**



Click the cogs to add an effect in the Sound Lab Fun Tool

Life is a circle. It goes round. In loops. Concentrically...

MAC

News, advice, and software for Mac users, compiled by Ian Waugh

NEWS

More good buys

One of the major problems Apple have in persuading their customers that Macs are good value is the speed with which Apple cut their prices. We all know that computer prices are dropping faster than Bill Clinton's trousers, but Apple seem to delight in devaluing their customers' purchases.

The latest round of price-slashing has seen the WGS 9650/350 drop by £1000 to £3749, and even the more-modest PowerMac 8500/300 has fallen £550 to £1499. The prices of PowerBooks have also been slashed. This would seem to be good news for buyers, but how would you feel if you'd bought one of these last month?

As there are dozens, if not hundreds, of PC manufacturers, PC prices are controlled by market forces – that is, good ol' competition – and supply and demand (see *PC Toolbox*). They tend to follow a downward slope, not the sheer drop Mac prices experience every six months. Apple still have a Mac monopoly and still call the shots when it comes to pricing. Anyone who likes to keep pretty close to the leading edge of Mac technology by selling a machine after a year and buying a new one generally loses far more on the deal than a PC user doing the same thing.

Will the new lower prices persuade you to buy? Well, the chances are most of the machines will be out of production in a year or so, so unless you have a budget which allows for regular upgrades, it makes sense to look at the purchase as a long-term investment. However, the arrival of the G3 machines could make prospective purchasers think the price cuts are an attempt to shift old technology and in the long term, you may still be better off buying a G3.

Low Macs

Apple are noticeably concerned that they don't have an entry-level Mac (in the States, that's one under $1200), as this is where about half the market is.

There do not appear to be any plans for releasing a low-cost model, but unless Apple make some sort of effort to compete with falling PC prices, they could lose the entry-level market completely.

The good news for UK buyers is that Apple intend to launch their Buy-By-Internet scheme (see last month's *Mac Toolbox*) in the UK, which will allow purchasers to specify the exact machine they want, rather than having to buy a made-to-measure machine off the shelf. This should be on-line in the summer.

Bye-bye Claris

Apple have announced that their Claris subsidiary will be restructured to concentrate on the FileMaker line of database software. The name will be changed to FileMaker Inc, and they will divest themselves of all products other than FileMaker – including around 300 employees.

QuickTime

The International Standards Organisation (ISO) has adopted Apple's QuickTime file format as the starting point for the development of a unified media storage format for the MPEG-4 specification. The proposal was put forward by Apple, IBM, Oracle, Silicon Graphics, Netscape and Sun.

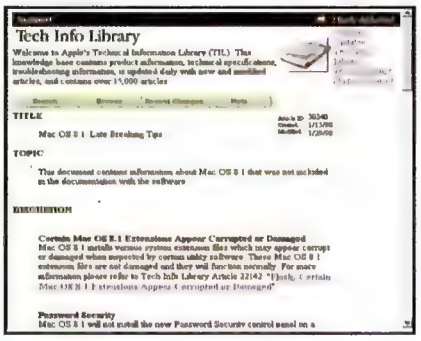
The move further enhances the position of Apple's QuickTime technology, which is estimated to be installed on over 50 million PCs as well as Macs.

8 on a plate

OS 8.1 is now available as a complete system on a bootable CD. One significant modification of importance to musicians is that Apple have made substantial changes to the sound routines. The sound controls have been moved from a global control panel into applications which could require a rewrite of the applications. Oh dear.

OS 8.1 now has a "None" input option but has removed the controls for play-through and individual mutes. You may like to check out the Sound Input Control Strip (available on the internet: www.macintouch.com/files/sis.hqx which helps solve some of the problems the new OS has created.

If you want the detailed nitty gritty, check out Apple's Technical Info Library (TIL) at: **http://til.info/apple.com/techinfo.nsf/artnum/n30340**



Get the lowdown on OS 8.1 from Apple's Technical Info Library

Arboretum freebies

Dragging the control in the Blue Window around the screen controls the three sliders at the top

How do you persuade someone to buy your product? Well, a demo is always a good idea. Arboretum have gone one better, and are giving away two of the effects in their Hyperprism program.

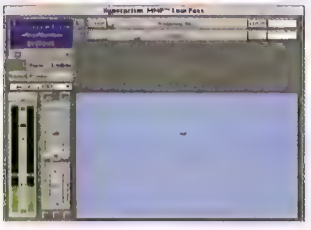
Hyperprism is an easy-to-use collection of digital effects which can be controlled in real-time by dragging the mouse around the Blue Window. The full package contains two dozen different effects for Premiere-compatible audio programs, plus a standalone version of Hyperprism and 25 AudioSuite plug-ins for Pro Tools and Logic Audio software.

The two freebie effects are Echo and the Low Pass filter. They are Adobe Premier-compatible, and will work with several programs including Bias Peak, Logic Audio, Gallery Software TurboMorph, Macromedia Deck II, Digital Performer, and Opcode Vision and Studio Vision software, as well as Adobe Premier, of course.

To use them, simply drop them into the plug-ins folder of your application. They will then appear in the Plug-in or Effects menu. Select a section of audio, click on the Preview buttons and start dragging.

The plug-ins and complete documentation can be downloaded from the Arboretum website (http://www.arboretum.com.) The plug-ins are also on the cover CD.

You can create real-time sweeps with the Low Pass filter by dragging the mouse around the Blue Window



Software and samples for your Mac are on the CD-ROM cover disc – see pages 8 and 9 for details

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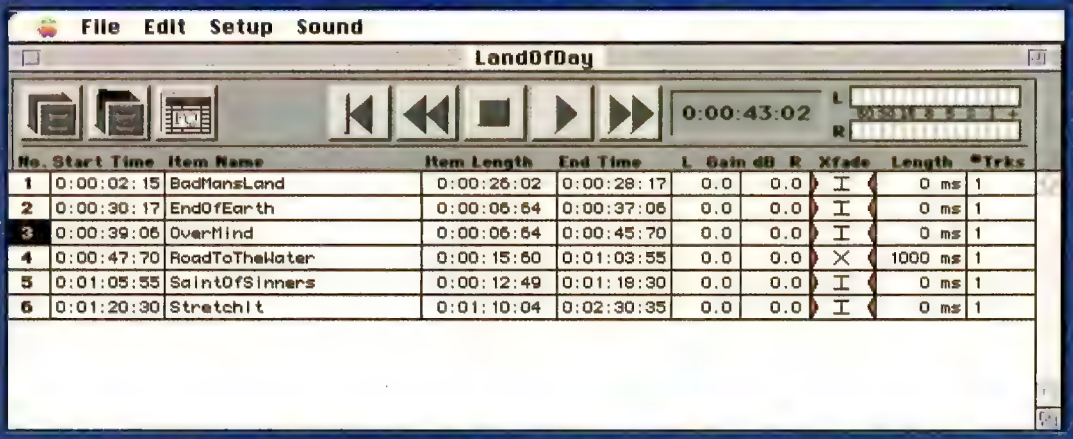
Master List CD



MasterList CD lets you group and arrange your audio files into a set of CD tracks

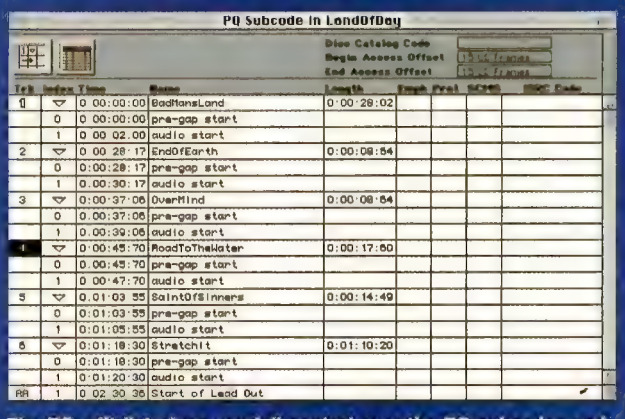
With CD-Rs coming down to affordable prices, more and more musicians are burning their own audio CDs. Most CD-Rs include a bundled utility which allows you to create audio CDs as well as save files to a CD, which is ideal for backups. However, if you want a professional finish, you need the right tools for the job.

MasterList CD, now up to version 2.0, can be used to write CDs and Exabyte tapes directly or via image files. It can also write CDs without any additional hardware – other than a suitable CD-R, of course – and this is one of the main features of the update. The original MasterList needed a Pro Tools card to ensure high enough write speeds, but as Macs have become faster, that's no longer the case.

Of course, if you have a Pro Tools system you can use it, too, and if you're working with 24-bit audio, the files are dithered to 16-bit during recording. MasterList currently supports around two dozen CD recorders, which may seem a lot, but there's a very good chance yours won't be on the list. However, the ones on the list have been selected by Digidesign as being suitable for high quality digital audio, and although others may work, the audio quality may not be up to spec. No doubt others will be added to the list in time, but you will need to check before you buy.

When you are putting together the pieces for an audio CD, MasterList controls the order and the spacing of the tracks. The program uses a standard dialogue box to add a file to the list. You can only add one file at a time, which is fine for most album-type CDs, but if you're creating a sample CD, for example, with lots of files, your mouse finger will get tired pretty quickly.

The program offers full edit control over all PQ subcodes (assuming the CD-R supports them) which contain the table of contents and other information used by the CD player. These are constructed automatically, but can be edited for greater control. For example, a CD can contain up to 99 tracks each with 100 index points, and these can be entered manually or taken from Sound Designer II markers or playlist region boundaries.



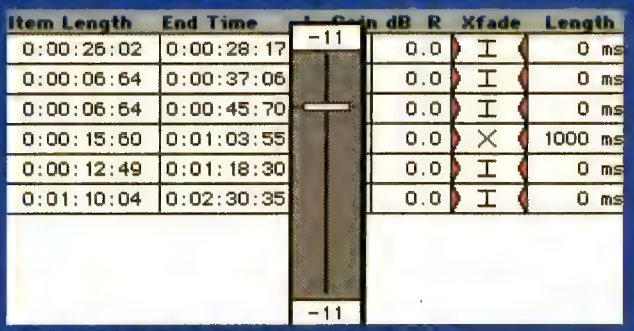
The PQ edit list gives you full control over the PQ subcodes and other niceties

Each item has its own independent, non-destructive gain control. The program also has two automatic peak-finding commands that look for peaks in a selection and in the entire list. You can create up to 100 autolocate points, which let you go to those positions quickly. All useful for ensuring a balanced album.

Each item can also have its own non-destructive crossfade. There are several crossfade types, the length of which can be adjusted, and they can be set as a pre- or post-crossfade. Once a list has been created, you can audition the entire list or any part of it.

In all, the program is very flexible and easy to use. The sort of things you can do with it include creating multiple CD tracks from a single file, creating a single track from multiple files, and putting a background ambience, applause or audience sounds between tracks.

The manual is quite comprehensive and describes all the bits of jargon you need to know: different Book standards, the various subcodes, index numbers,

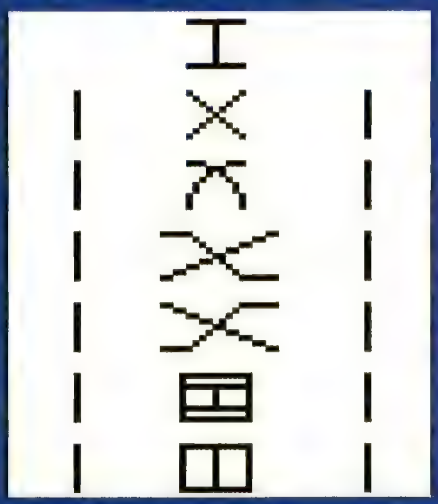


Each item in the list has its own volume control

ISRC code, SCMS, access points, and so on. It also contains a few CD mastering tips. The pack also includes a booklet containing tips on audio CD writing, and has individual comments on the range of CD-Rs the program supports.

If you find your existing Red Book software limiting and want something a bit more flexible, MasterList CD is certainly worth looking at, although its price may deter all but the most serious audio CD burners.

MasterList CD costs £445. More from: Digidesign UK, Westside Complex, Pinewood Studios, Iver Heath, Pinewood, Bucks, SL0 0NH Tel: 01753 653322 Fax: 01753 654999.



You can apply a range of crossfades to each of the tracks in MasterList CD

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ATARI

News, advice, and software for Atari users, compiled by Danny McAleer

New distributor

Floppyshop have announced that they have recently become the official UK distributors for all of Electronic Cow's audio and MIDI software. One of the major benefits to this partnership is that your flexible friend (the credit card) is now an acceptable means of payment. All prices remain the same (£10 Sound Chip Synth, £15 MIDI Arpeggiator, £16 Snippit Synth), although postage costs are now £2/3/4 for UK/Europe/rest of the world.

For more information, contact Floppyshop, PO Box 273, Aberdeen, AB15 8GJ, Tel/Fax: 01224 312756. Alternatively, you can now contact Electronic Cow directly, via their new telephone number: 0411 544133, for orders, technical advice, and user support.

It's logical

Surprisingly, Emagic have recently upgraded Logic for the Atari. New features include text markers on the arrange page, and a completely user-configurable transport bar (to the point where it is possible to have many versions of it open at once). There are also several improvements throughout the program, including some to the score and environment pages.

Logic Version 2.5 costs £59 and is currently only available as an upgrade – a sort of loyalty bonus for all the dedicated users, if you like. For more information on the upgrade (or the possibility of buying the complete version) contact Sound Technology, Letchworth, Hertfordshire, SG6 1ND. Tel: 01462 480000.

Intrinsic Technology have a unique offer for all readers of *The Mix*. The desk accessory analogue sequencer GAS (as reviewed way back in *Toolbox* issue 14), now costs just £39 plus postage and packing, and their 48 MIDI channel expander kit Noboxe has been reduced to £29 (plus £1 p&p)

To take advantage of these limited offers, contact Intrinsic Technology, PO Box 907, London, SE27 9NZ. Tel/Fax: 0181 761 0178.

Complete studio

Digital Home Studio is a new Falcon-only program, purporting to be a complete studio on a disk (or three). The software neatly bundles together pattern-based sample and MIDI sequencing, direct-to-disk recording, and sample editing/synthesizing, all into a tracker-type custom interface. As well as all the internal clock frequencies of the Falcon, DHS also supports an FDI, allowing you to use 44.1 and 48KHz for easy transfer to CD or DAT.

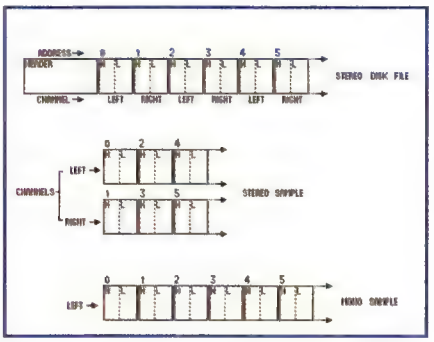
Sample editing features include effects like equalisation, various filters (high/low/band-pass, and low/mid/high frequency gain), flanger, reverb, and echo. There's even a built-in waveform generator, with four types of output (square, sine, triangle, and sawtooth), and frequency, phase, and amplitude modulation settings. And as with other tracker-type programs, samples can have real-time performance attributes like portamento, vibrato, panning, and volume slider attached to them.

At the moment, there isn't a distributor for DHS in the UK,so for more information, contact Softjee via Email: softjee@hol.fr, or visit their website (http://wwwperso.hol.fr/~softjee/)

Atari Techniques: AVR Samples

Essentially, all samples are the same: a block of format-specific scribble attached to reams of numbers that, when deciphered by a suitable program, describe a sonic event. Obviously, as a musician or sound designer, the latter lump of stuff is most important of all. The former seems to be there simply to cause headaches when attempting to swap data between programs and platforms. However, amidst the myriad of mumbo that is the sample header are some very interesting parameters that are worthy of tweaking.

Whenever a sample is saved, the program doing so adds a block of bytes called a header onto the front of your sound (in the case of the AVR format, there are 128 bytes), and this contains all manner of information pertaining to the sample's personality.

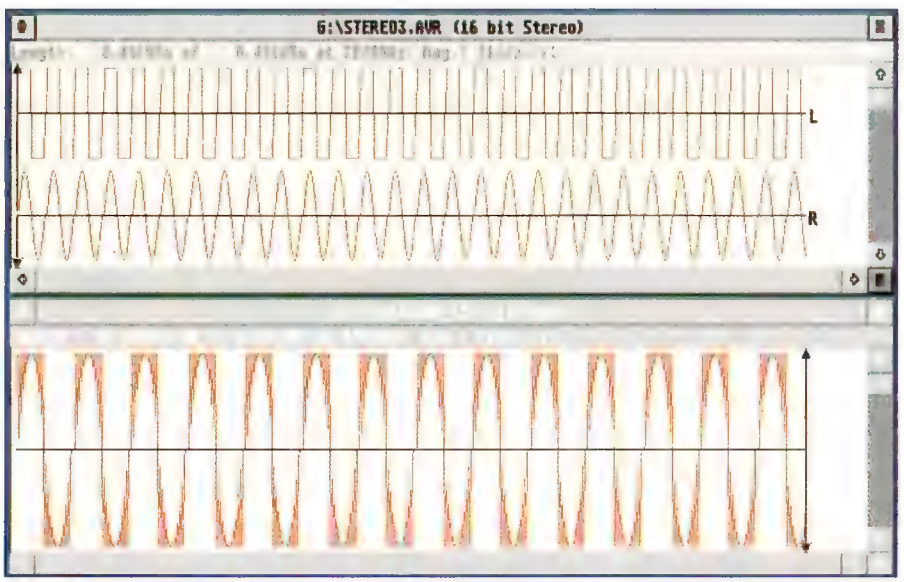


The various stages of transforming a stereo file into a mono sample

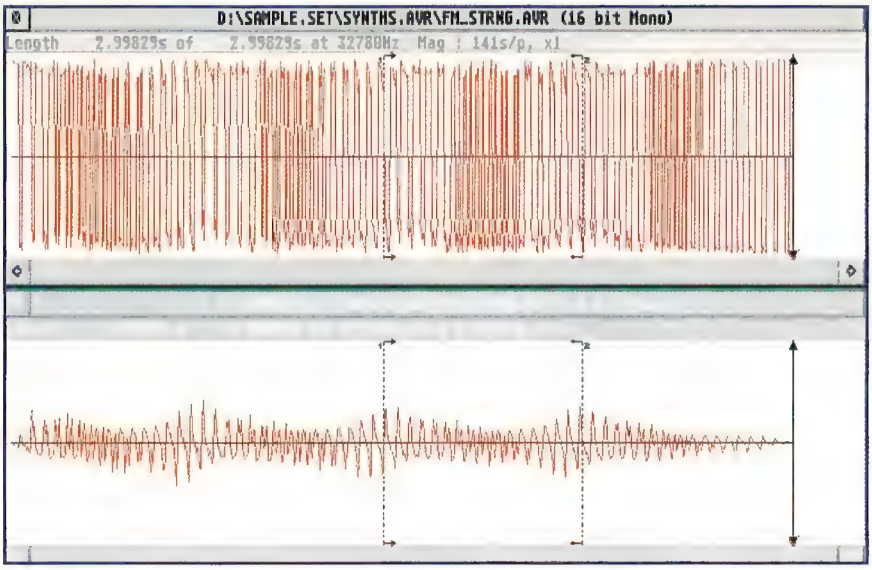
The first four bytes contain the ID string '2BIT'; this is particular only to the AVR format, enabling software to differentiate between say, a Windows WAV sample and an AVR sound. The following eight bytes are used for storing the sample's filename, after which arrive the editable bits. Bytes 12 and 13 sum together to form a 'word' (a sixteen-bit or two-byte variable) that is used to describe the sample mode: 0 for mono and $ffff ($ denotes hexadecimal notation) for stereo.

Now, stereo samples are stored and played in an interleaved fashion. That is, the left channel's samples are stored in the even bytes or addresses (0, 2, 4, and so on), and the right channel's are in the odd (1, 3, 5, 7...), as shown in the diagram. By changing the header of a stereo sample from $ffff to

The visible results of your Frankensteinian experiments aren't nearly as good as the audible ones



Software and samples are on the CD-ROM cover disc – see pages 8 and 9 for details



Ever wondered what inside-out sounds sound like? Then you're really weird

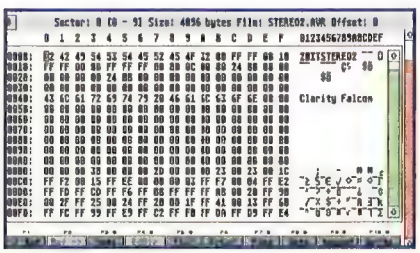
0, you effectively tell the sample editor that the sound is mono, and it will then load it in as such, alternately mixing the left and right channels into one mono sample.

The results can be quite outstanding. Even better sounds can be generated by deliberately creating a stereo sample out of two unique mono sounds (using cut and paste in your sample editor), and then editing the header and mixing them into a single sound.

Changing a mono sample into a stereo sample doesn't really have quite the same dramatic effect. Indeed, although you might expect something quite bizarre to happen, all that does happen is that the sound is duplicated in both channels. However, it is pitched up by one octave, and only half the duration (much in the same way as the key-zoning effect on a MIDI sampler).

Back to the sample header. The next word in the AVR header describes the sample's bit depth or resolution, and is stored as $0008 or $0010 (8 or 16-bits). This information is equally as important to the sample editor as it judges from this the amount and type of memory it must allocate to load the sample (after all, 16-bit samples are twice the size). The editor will then attempt to box the sound data into like-sized pigeon holes, but if the header has been tampered with, then it may be trying to fit a 16-bit number into an 8-bit space, or

In true science class fashion, dissect a sample with a binary editor



vice-versa.

Results from editing the bit depth vary from sample editor to sample editor; some may end up with a lot of noise with a hint of sound, others produce very odd sounds, but both times it is due to incorrect memory allocation on the part of the software. Be warned also, that this edit can sometimes cause programs or computers to crash.

There then follows another word that contains the sample type information, whether the data is comprised of signed or unsigned data (signed data has values that are both positive and negative, whereas unsigned data only contains positive integers). Fun can be had turning samples inside out by altering the values of these two bytes, changing a quiet bleep into a rampantly distorted squeal.

This happens because the negative floor value in an 8-bit signed integer is -127 which is $ff, and this (in computer terms) is the same value as 255 (the upper limit of an unsigned byte) which is also $ff. This is so because a computer uses the top four bits in the byte to describe the negative part (or how many numbers is this away from zero), and this is why signed data only reaches +128 as opposed to +255. In short, all the values that were once part of a negative cycle become pulled up and over the once positive cycle, turning the whole sample inside out. Try a few samples, and it'll all become quite clear.

Bytes 18 and 19 denote the loop mode (0 = no loop, $ffff = looping), 20 to 21 represent the MIDI note assignment, and bytes 22 through to 25 store the sample's frequency. In actual fact, only three of the four bytes of this long integer are used for storing the frequency; the high byte is set to $ff, or it has a value of zero to seven, which correspond to preset sampling frequencies in older versions of Replay. Therefore an AVR sample's frequency is represented in C code thus: avrfmt.sample_rate = freqHz + (0xff<<24), for writing, and freqHz = avrfmt.sample_rate&0x00ffffff to read. Changing any of these parameters is easily done within the sample editor itself.

The final set of long integers store the sample's length in bytes or words, and the start and end points for the loop. Varying the sample length will result in some bizarre audio anomalies appending themselves to the original sound, or, if the value has been reduced, the end of the sample will be chopped off! Generally, the remaining bytes (38 to 128) are unused by most software, as a lot of them are reserved for Replay-specific stuff (things like the sample markers, and the MIDI keyboard split zones), or have been marked as reserved for future development of the format.

If you're at all conversant with a programming language, it would be fairly easy to write a small application that would allow you to perform header transplants. But perhaps the easiest way to surgically alter the header data is to use a binary editor like Egale (provided on this month's CD). Either way, it's an interesting twist to conventional sample editing, and has quite unique results. But do remember to backup your sample data first!

More information on the *.AVR format can be sourced from the Replay/Clarity 16 handbook, supplied with the software. Contact HiSoft for further details at: The Old School, Greenfield, Bedford, MK45 5DE. Tel: 01525 718181. Fax: 01525 713716.

Step-by-Step guide

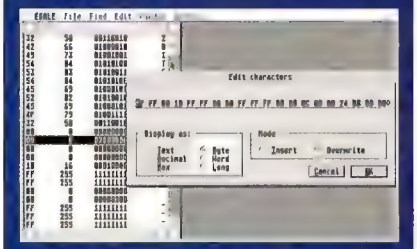
1. With Egale (or a similar binary editor) loaded, open a sample using the 'open binary' menu option.

2. Find bytes 12 and 13, and move the text cursor to them. In a stereo sample, these will show two $ff values.

3. Click on edit line, and in the dialogue, select 'hexadecimal notation', and set the mode to 'overwrite'.

4. Next, type in four zeros over the four 'f' values, then click on OK.

5. Finally, choose save as... from the menu, save the sample (using a different file name), and then load into your sample editor.

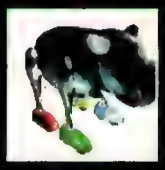


Egale: a binary editor to alter your header data

HELP FILE

THE MASTERMINDS
THIS MONTH'S *HELP FILE* TEAM

NAME: Ian Waugh
OCCUPATION: computer journo
CHOSEN SUBJECTS: computers, software, Northern folksong



NAME: Danny McAleer
OCCUPATION: software engineer
CHOSEN SUBJECTS: Atari computers, synthesis, LEGO

NAME: Paul Mac
OCCUPATION: technical editor, *The Mix*
CHOSEN SUBJECTS: Apple Mac, hardware, PlayStation

Nervous? Anxious? Can't sleep? Then you need the new, improved *Help File*, offering expert advice on the technical problems that are making life in your studio unbearable.

Just drop us a line by letter or Email and our team of audio agony aunts will do their best to ease your suffering

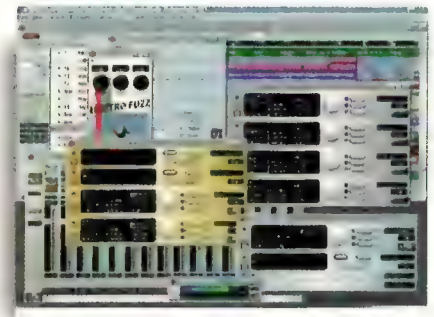
VST Confusion

Q I am trying to install Cubase VST on a Dell P120 Pentium machine. Already I have had to install additional memory (which has proved to be faulty). I have a 1Gb ID hard Drive, which Steinberg say will not run their system properly. Dell will not supply or support a SCSI hard drive on my machine; I am therefore thinking of installing a 2.1Gb EIDE hard drive. What's your opinion? Would a 3Gb EIDE hard drive make much difference?
Marc, London

A I confess to being a little confused. Assuming you mean a 1Gb IDE drive (which, on a P120, should actually be an EIDE drive), there's no reason why VST should not work on your system, providing there is enough free space on it for VST and the audio data you want to record – is there? You could try defragmenting it. The minimum suggested spec is for a Pentium 100 with 24Mb RAM, although the recommended minimum is a Pentium 166 with 32Mb RAM. So it should work on your system, albeit a little slowly and with a limited number of real-time effects.

The importance of the drive is that it is used for storing the audio data, and as long as there is free space on the drive, size is immaterial. If only life were like that, eh? A newer, larger drive such as a 3Gb may be faster and possibly allow more tracks to playback simultaneously but it should not be necessary simply to run VST.

Also, unless your PC has no spare ISA or PCI slots at all, there's no reason why it should not take a SCSI card, to which you could connect a SCSI HD. Whether or not Dell will do this is another matter, but a local friendly computer shop will. A SCSI HD would improve digital audio data transfer but, again, should not be necessary simply in order to run VST.
Ian Waugh



Steinberg's Cubase VST – system hungry?

Bang on!

Q I have a Roland TD7 drum kit and I could really use one of the new V-Drum PD100 or 120 pads for the snare. Can you tell me if the new type pads will work with the TD7 brain?
Bongos, Email supplied

A Yes, the V-Drum heads can be used with the TD7, providing your TD7 has software version 1.1.3. If it doesn't, you can get it from Roland UK's spare parts department at a cost of £53 + carriage. It comes on a chip that replaces your existing software, and if you send the old chip back to Roland, they'll credit you with 50% of the cost. Roland's parts department can be contacted on 01792 515023.
Paul Mac

Fielp bee pliss

Q I want to experiment with the intelligibility of speech when pitch shifted downward by as much as an octave. I hope to find software for my PC which will allow a microphone input via the soundcard – software to reduce the

The Help File, *The Mix*,
Future Publishing, 30 Monmouth St, Bath BA1 2BW
Email: themix@futurenet.co.uk

Cool by name...

pitch and output to headphones, in real-time if possible, but off-line would do. Experiments to date include a Boss VT-1 voice transformer, but this is not good enough as distortion occurs.

Paul Dennison, Email supplied

A All modern soundcards can record and play back digital audio. Not all have a mic input, so if that's important, check. If high quality is important then you'll need a high quality card, but we're talking music quality here. You don't 'need' such a high quality for speech and, in any event, most soundcards do produce good quality sound. Many soundcards include software that lets you record samples and play them back via MIDI (a little like a sampler), so you could record a voice and use MIDI to play it back at different pitches.

The process of transposing a sample by as much as an octave can induce distortion, but this is probably easiest to monitor and control in a software program. (But are you sure you're not overdriving the VT-1?) However, transposing a sample is a very processor-intensive function and I'm not aware of any software which can do this in real-time with no perceptible delay. Forgive me if I've had a mental lapse, or perhaps a reader could remind me of the program if I have forgotten.

Off-line it's no problem, and there are several programs around that would do the job. However, most have been written with music-making in mind, and if you only want to do voice experiments you'll be paying for something that you're only using one percent of.

But there is also some shareware you could look at. I haven't tried all of these so don't know how suitable they may be, but they are free:

Mellosoftron lets you play samples at different pitches via MIDI as described above. Cool Edit 96 and GoldWave are waveform editors and include effects. There's also Effects Master which does apply effects in real-time (with a 50ms delay) although it doesn't have a transpose effect. You can find these on the internet.

You might also like to investigate a Music and MIDI CD-ROM from Red Dragon which contains these plus lots and lots of other MIDI and sound utilities. It costs £22. Contact **Red Dragon Shareware on 01745 338094.**

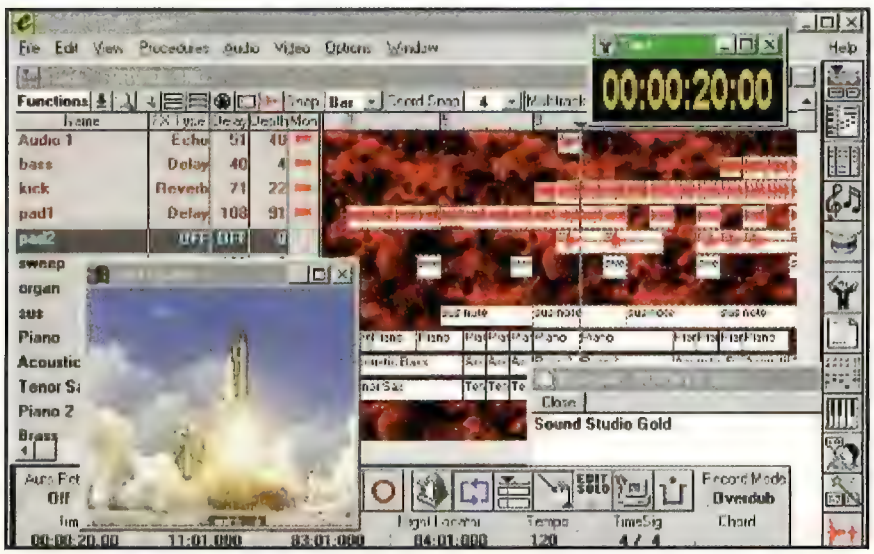
Ian Waugh

Simple sampling

Q I have a PC 486 with Maxi 64 Home Studio, Quartz Audiomaster, Cakewalk Express and Sound Impression (sampler). I have so far been able to produce music from MIDI form with limited samples, as the sampler cannot change the speed of samples e.g. beats and riffs. I know the solution to this is to buy a better sampler, but I am not to clear on how to run it through the computer, so I can get these specific sampled sounds onto the sequencer. I would also like to know what is the best sampler to buy (around £600-£700). I would also like to confirm (as I have been told by so many specialists), can you get the sampled noise to come out on your MIDI keyboard?

Jody Street, Email supplied

A There are two types of samples in your system. If you have samples loaded into the Maxi 64's sample RAM, when you trigger them using



Evolution's Sound Studio Gold

HELP FILE GLOSSARY

Your guide to the technical jargon contained within the Help File

Auxiliary
A sub-mix output from a mixer, normally used to send a channel mix to an effects processor or to monitors. Some mixers have dedicated auxiliary returns that are mixed into the main stereo buss.

Defragmenting
Tidying up a hard drive. When files are written more than once, they are often split into more than one data 'block'. This slows access to that file and uses up more space than necessary. Defragmenting consolidates fragmented files and frees wasted disk space.

Effects
Anything, software or hardware, that alters the nature of a signal, such as a reverb unit, pitch shifter, or vocoder.

EIDE/IDE
Data buss/connection standard for internal PC hard drive connections.

Gb
Gigabyte. A measure of hard-drive space that is equivalent to 1024 megabytes, or just over 700 high-density floppy disks

PCI
The standard cross-platform computer hardware interface for card slots. Replaces NuBus in the Macintosh, and ISA in the PC.

Sequencer
MIDI recording, editing, and playback software. Many sequencers now include audio recording and editing.

Shareware
Software with a shareware license agreement. It is freely available on the internet, or cheaply from third-party companies. For continued or fully functional use, a registration fee is payable to the author.

STFM/STE
Two generations of the original Atari 68000-based computer. The STE is the youngest of the two.

different MIDI notes they will play at different pitches. However, if you want to do something a bit more sophisticated, say with Wave files or material you've recorded yourself, you will need other software.

If you like playing with loops and grooves, take a look at Steinberg's ReCycle (around £199 from Arbiter Pro Audio: 0181 207 5050). It lets you change the tempo of a loop without changing the pitch, and vice-versa. It basically lets you chop up a groove into sections and then play the sections in a different order or at a different tempo. It's designed for use with a sampler, the idea being that you load each section into a different sample slot and trigger the samples via MIDI notes. However, you can use it to create new loops and save them as Wave files for use in a digital audio program, such as Quartz Audio Master or Cakewalk Express (the latest version of which supports digital audio tracks).

If you want a hardware sampler, you won't get much for £700, but take a look at the Sampler section in our *Buyer's Guide* to check out what's available. You can't get a sampled noise to "come out" on your keyboard – you can trigger samples in a sampler from a MIDI keyboard. The sounds do not emerge from the MIDI keyboard but from the sampler.

Depending on what you want to do, musically, you may be better off looking at a multi-track direct-to-disk recording program or an integrated MIDI/d-t-d program. If you want something more flexible than your current software, look at programs such as Sound Studio (£60) with two audio tracks, and Sound Studio Gold (£150) with four audio tracks, from Evolution (01525 372621), and others in the Cakewalk series from Et Cetera (01706 228039). You don't say how fast your PC is, but d-t-d programs run best on a Pentium and if you have a slow machine, the number of tracks you can play back may be limited.

Ian Waugh

Canada quest

Q I recently bought a 24-channel Roland mixing desk (M24E) here in Canada, and was wondering how old it was. Do you know when these were manufactured, and if new/used manuals are available?

Osman Ahmed, Email supplied

A Ah, the old M24E eh? No, we don't know much about it either. Roland UK say that manuals are still available, though they're not sure about the Canadian stock levels.

For Roland in Canada you should call the Roland Canada Music Ltd head office on 416 213 9707. Roland headquarters in the UK can be contacted on Tel: 01792 515020, Fax: 01792 310248.

Apparently the M24E was manufactured between about 1989 and 1993 If other readers have more information, let us know!

Paul Mac

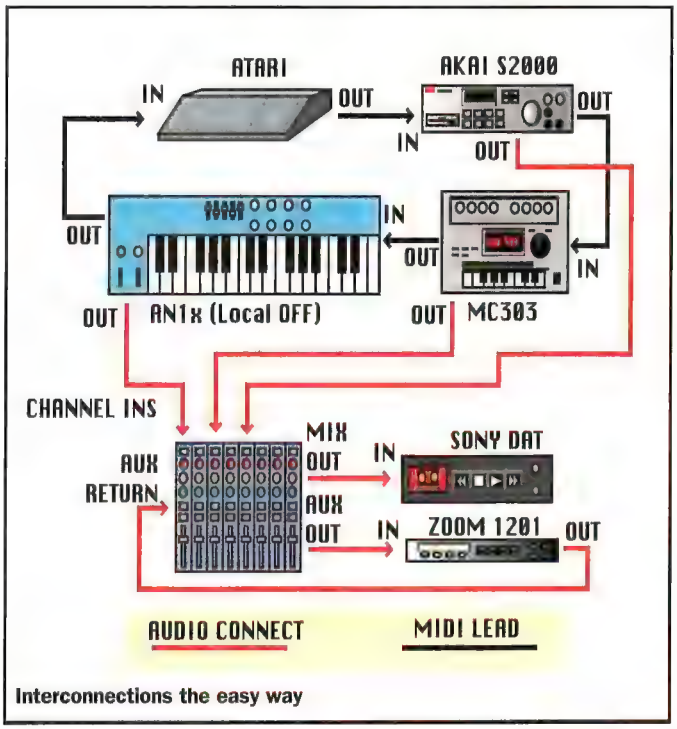
Interconnect

Q I have the following pieces of gear: Akai S2000 with CD ROM and Zip drive, Yamaha AN1x, Zoom 1201, Folio F1, Roland MC-303, Sony DAT, and Atari ST 1040 with the old Pro24 program. Could you suggest the best way to connect all these together so that the ST is controlling everything via MIDI? I only have two MIDI cables, so I assume I'll need a heap more, but how do I do it? I'd really appreciate some advice as I know I have a potentially formidable little set-up here, if I can only connect it together properly.

Andrew Watson, Email supplied

A The diagram below should help you out. This is only one of several possible configurations, but it's probably the most basic. If you want to use the control facilities on the MC-303 and the Yamaha, you could use a merge box to the MIDI IN of the Atari, or if you need more than 16 MIDI channels, you'll have to invest in multiple MIDI outs for the Atari. The audio connections are only schematic, you'll have to account for multiple outs from the instruments, the stereo mix out, and probably a stereo auxiliary return. The manuals for each individual piece of kit should have the small details in.

Paul Mac



Interconnections the easy way

HELPFILE FAQ

Q I want to upgrade my Atari STFM / STE memory to 4Mb. How do I do this?

A If you have an STE, then lucky you, because this is going to be easy. STEs use standard memory chips called SIMMs, and these can be found in any PC mail order catalogue. The STE will let you configure your memory as 1Mb (4 x 256k), 2Mb (2 x 1Mb), 2.5Mb, but only with a patch program available in the public domain (2 x 256k, 2 x 1Mb), or 4Mb (4 x 1Mb). Four megabytes is the best option, and this is likely to cost in the region of £30-£40. You need a 30-pin SIMM, either 3 or 9-chip, and at least 80nS access time (the lower the better). Parity or non-parity SIMMs don't make a lot of difference with the Atari, it's just a question of price and availability.

Fitting SIMMs inside the STE is also fairly straightforward, although there are plenty of screws to remove (and lose) first. Next to the power supply are four slots on the motherboard, and this is where the RAM simply slots in. If you're unsure about installing the memory, then perhaps it would be a better idea to buy your RAM from an Atari-specific hardware dealer and get them to fit them for you.

Atari ST FM

The STFM's motherboard came in many guises, and so it is always best to consult an Atari dealer for the best options on memory upgrades. There is a plug-in board that fits on most STFMs and will let you use SIMM memory in the same way as the STE, and these cost around £80 (populated with 4Mb of RAM). The best option is to telephone The Upgrade Shop on 01625 503444 who specialise in this kind of thing, and they will be able to advise you on prices, and fitting for your specific needs.

Danny McAleer

midiman

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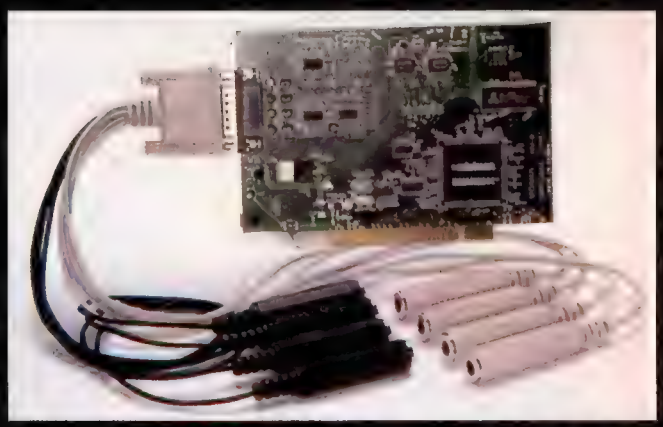

* Initial driver will not have this feature. Free driver update will include effects plus multi card support.

** Break out cable is included, break out box available as option in April.

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DIY PROJECT: TURBO-CHARGE YOUR TR-606

PART TWO

This month, Geoff Waterston shows you how to finish off your Roland 606 transformation with some simple bass and snare modifications

Check out the killer sounds of the modified 606 on the cover CD

In last month's issue I began to show you how to heavily modify a Roland TR-606 drum machine and turn it into a sub-bass monster, capable of equalling both the classic 808 and 909 kick drums. This month I will show you an extra little modification that can be done to the main bass drum that will create a pitch sweep on the bass drum, and is switched on by the high tomtrigger output. I will also show you how to turn the low tom into a 909(ish) bass drum. Finally, we will do some simple modifications to the snare drum, which will alter the pitch, noise filter, and decay.

The construction method is very simple. You just have to solder wires onto the copper side of the PCB and swap capacitor and resistor values; some capacitors are increased in value by soldering another capacitor directly to it on the PCB. I admit that this is quite a crude method, but it is also very simple and quick.

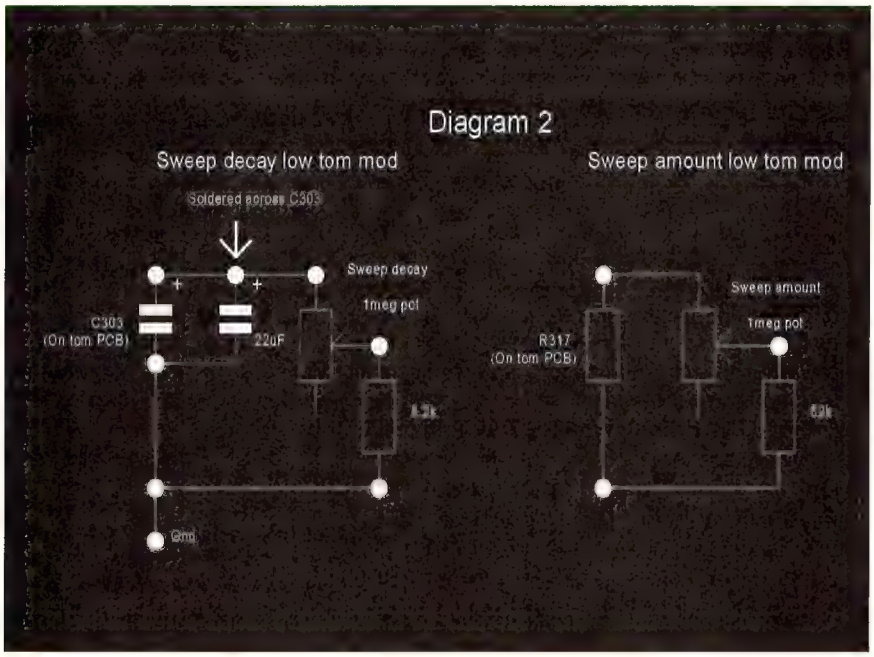
Pitch sweep

Let's begin with the main bass drum. If you look at Diagram 1 you will see that it is very similar to last month's, but it includes a capacitor diode and pot which make up the sweep generator. The diode is connected to the high tom trigger output – this means every time you program a high tom the circuit will sweep the bass drum pitch.

Some interesting effects can be achieved by programming the sweep off beat from the bass drum. This circuit can simply be soldered onto the sweep decay pot (see pic). There is only one minor drawback, and that is that the high tom sound is lost, but I'm sure you can live without it.

From tom to 909 bass drum

The tom PCB is separate from the main PCB – it is located between the tempo and volume controls, which are clearly labelled on the board. The first thing to do is to



switch off the noise source; this is done by locating the grey wire that has 'noise' written beside it. Cut this wire in half.

The high tom must also be turned off, otherwise every time a bass drum sweep is initiated a high tom would sound – not a desirable state of affairs. You will see on the tom board that there are three wires together labelled TRIG, HT, and LT. Cut the one labelled HT. The high tom is now turned off.

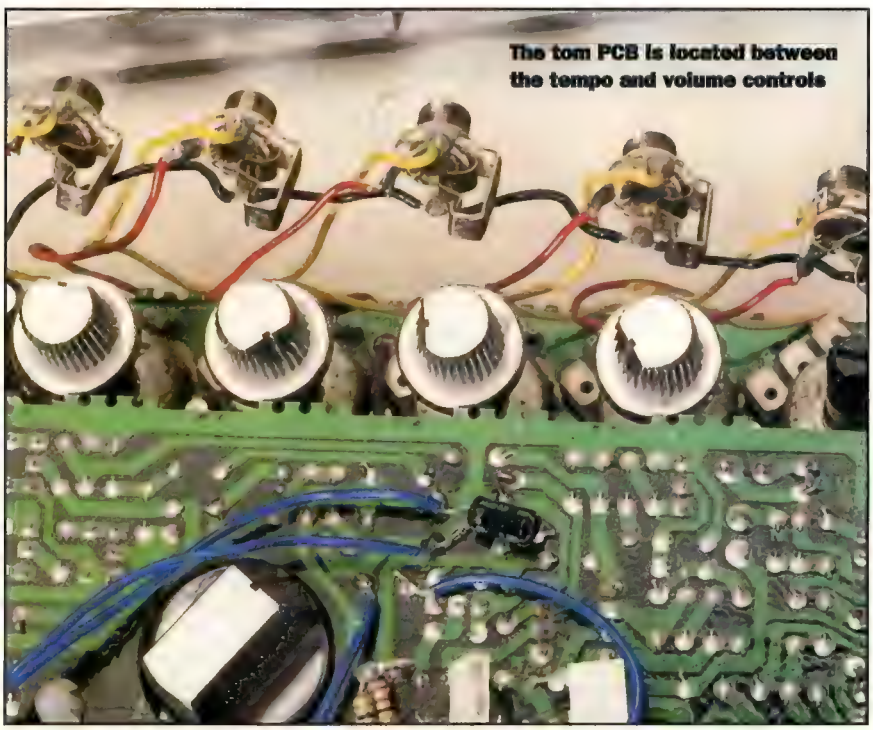
Next, solder a .22µF electrolytic capacitor across the back of C303, making sure that the polarity is correct. Now solder a 12Ω resistor across the back of R323, then connect up the two 1 meg pots and the two resistors as shown on Diagram 2. Your low tom will now sound like a 909 kick drum.

Snare mods

The snare modifications are very easy to achieve. Altering the snare pitch and noise filter involves removing two resistors and replacing them with pots and fixed resistors. For the pitch modification, remove R112 and replace it with a 470K resistor and a 1 meg pot. (see Diagram 3). This will allow you to tune the snare up and down about two octaves.

The snare filter is a hi pass filter that shapes noise into the snare rattle. This modification allows you to sweep the filter cutoff frequency up and down. Remove R153 and replace it with a 390Ω resistor and a 100K pot; this control makes the snare sound like a 909 snare (see Diagram 4).

To modify the snare decay you must



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SOME TIPS ON TAKING THE 606 APART

1. Remove the batteries.
2. Remove the knobs from the front panel.
3. Remove the six screws from the back panel, one of which is located in the battery box.
4. Pull the back panel off and unsolder the connections to the battery terminals.
5. Remove the two screws located in the battery holder. This should now allow you to remove the front panel.
6. Remove the plastic posts which hold the switch board and the tom board to the main PCB. This is done by squeezing the top of the posts together with a pair of pliers. You should then be able gently tease the circuit board off, which will give you access to the main PCB board. Be careful not to snap any of the wires.

solder a 2.2µF electrolytic capacitor across the back of C35 (be careful to get the polarity the same as C35) and then solder a 5.6K resistor and a 100K pot to the 2.2µF capacitor as shown on the diagram (see Diagram 5). Now you can have short and tight, or long and noisy snare drums. **Next month I'll show you how to make your synth scream with my synth overdrive project.**

PARTS LIST

CAPACITORS

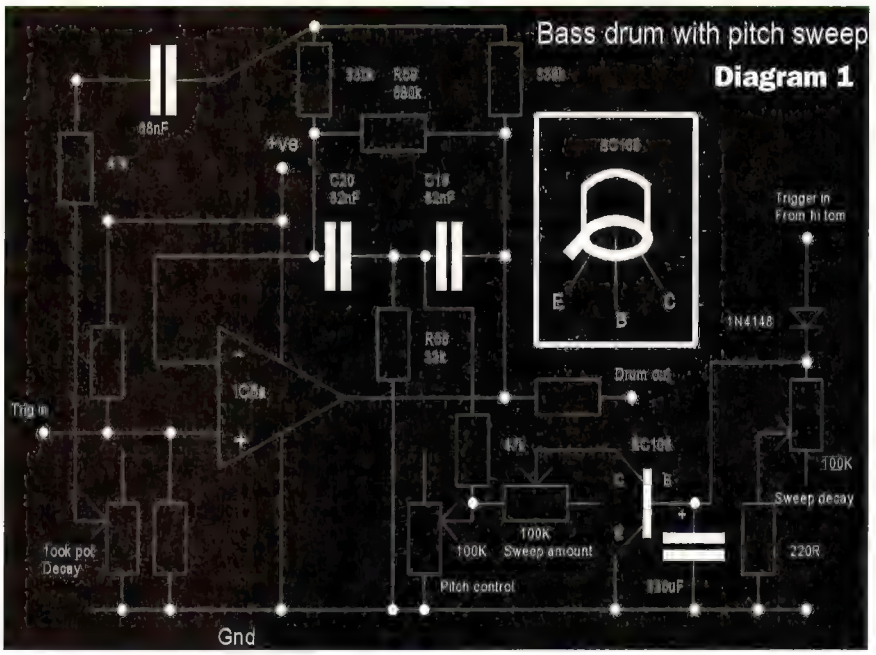
- 1 X 33nF capacitor
- 1 X 68nF capacitor
- 1 X .22µF electrolytic
- 1 X 330µF electrolytic

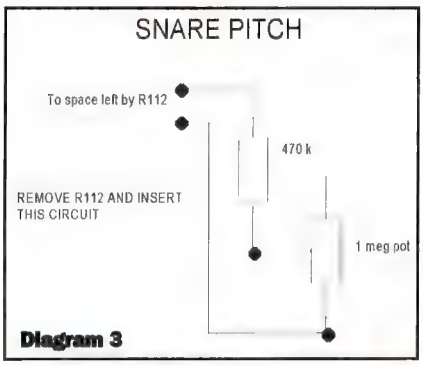
RESISTORS

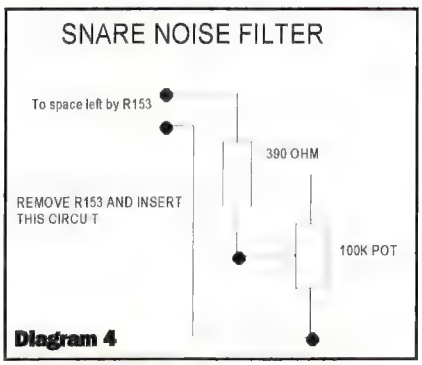
- 4 X 100K pot lin
- 3 X 1 MEG pot lin
- 1 X 390Ω resistor
- 1 X 220Ω resistor
- 1 X 12Ω resistor
- 1 X 8.2K resistor
- 1 X 5.6 K resistor
- 1 X 470 K resistor
- 1 X 82K resistor

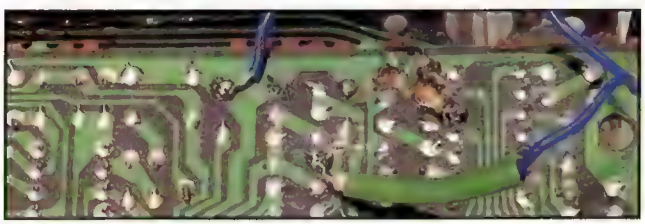
SEMICONDUCTORS

- 1 X 1N4148 diode
- 1 X BC108 transistor

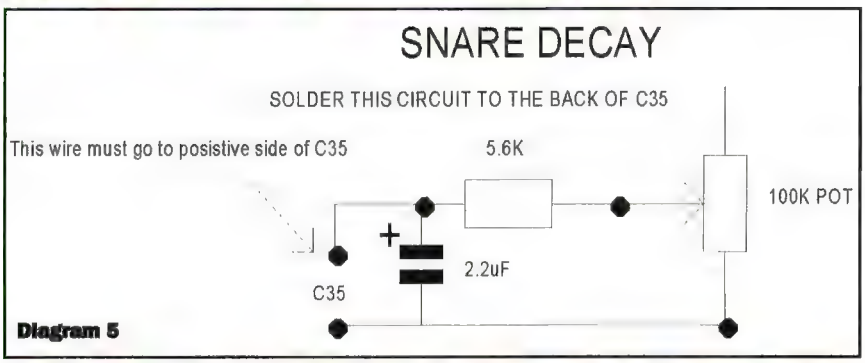


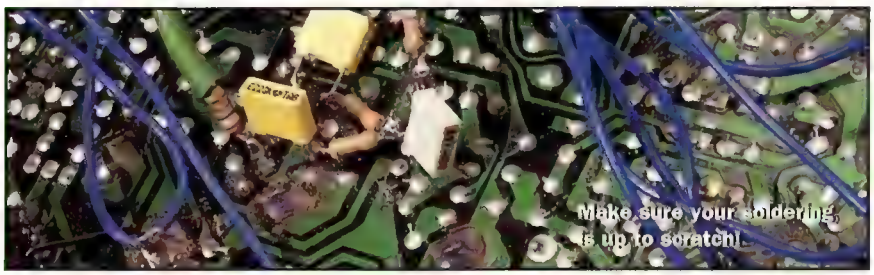






The solder side of the TR-606's main circuit board





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HEAR NO EVIL

Nobody is a born musician or producer – it takes a certain amount of practice and experience to become either. Bob Dormon offers some encouraging words for those treading the path to musical enlightenment

You don't have to be a good musician to be a good sound engineer. What you have to be, though, is a good listener. Your hearing becomes attuned to the concept of filling a space with stereophonic sound comprised of numerous instruments and effects. Just like the musician, you may have to check things against each other. The muso makes sure he's in tune with the rest of the band, while the sound engineer examines the music as a whole, often taking it out of the polished environs of the studio and playing a tape of it on a ghetto blaster just to hear how the rest of the world will get to hear things. Even then, the examination process doesn't stop, because whatever those and many other tests reveal, certain aspects will be confirmed as okay and others will need changing. Again, it's not too far removed from the musician who needs to tune up during a session and no doubt discovers ways to improve his or her performance with each rehearsal or take.

Quality control

The point is that the process of refinement can take time even in experienced hands, and if you haven't got the experience you shouldn't despair. Saying 'it's common sense' is all too easy when you know how to do things. For example, a learner driver can't be expected to follow the common sense procedures of stopping at a red light if they don't know where the foot-brake is!

Familiarity is the key, and the more you do something, the easier it becomes to develop a suitable approach.

Look at it this way: if what you're doing doesn't sound right to you, then at least you're establishing the skills of quality control. If you know it sounds awful then that's half the battle. After all, would you prefer it that other people end up telling you it all sounds awful when you naïvely thought it was great? Even the most revered recording folk of our time will have demos tucked away that show their talents in a diminished light. So take some comfort in the fact that having a few dodgy demos is really your rite of passage to a higher level of musical appreciation. Make those mistakes, think about them, even enjoy them. If you hear your mistakes enough times you can often get to like them more than the original idea! That's music for you, but would you have it any other way?

On the other hand though, one of the most appealing things about home recording is that you can work on things until you get them right without worrying about the studio clock and the bill that follows. By dropping in and out or using varispeed, an average guitarist or vocalist can put together a performance that goes beyond their actual capabilities. It's part of the recording magic, and even if it took you nine hours to do an eight-bar lead break, you don't have to tell anybody. Keep your mouth shut on these little details and your credibility will follow.

Mixed up

Unfortunately, the journey of discovery that allows your creativity to mature can be very distracting. Just learning how to do MIDI sequencing is a task in itself, but again like driving, once learned it is never forgotten (just be prepared for the odd crash). The learning process can divert attention from certain areas that as a whole have equal importance. Getting into a sampler for the first time is rewarding, fascinating, frustrating and fun, but you might find (in your eagerness to saturate a track with cool samples), that the mix goes out the window. Hip sounds do not alone make for a hap'nin' mix.

Consequently, you have to re-evaluate what you're trying to achieve. Something tells you things aren't right and that something is your ears! This is usually the point where doubt creeps in with a panorama of grey clouds around it. All those ideas you had with a ton of neat samples just amount to a noise that needs taming. Can you fix it in the mix? Sometimes, but not always. Just a few effects and a change of level sir, may pacify the beaty beast, but

not entirely. But walk this way, and take off all that musical clutter, lets get down to basics, lets begin to make an arrangement! With today's dance music a lot of arranging is done spontaneously, as sequenced tracks play continuously and are simply muted and unmuted as desired. If you haven't got a load of synths and a mega desk then you can still do a lot of work on the sequencer itself. Choosing what plays when and for how long can completely change the character of your music, but often the problem is more fundamental and it's actually the music that needs to be changed.

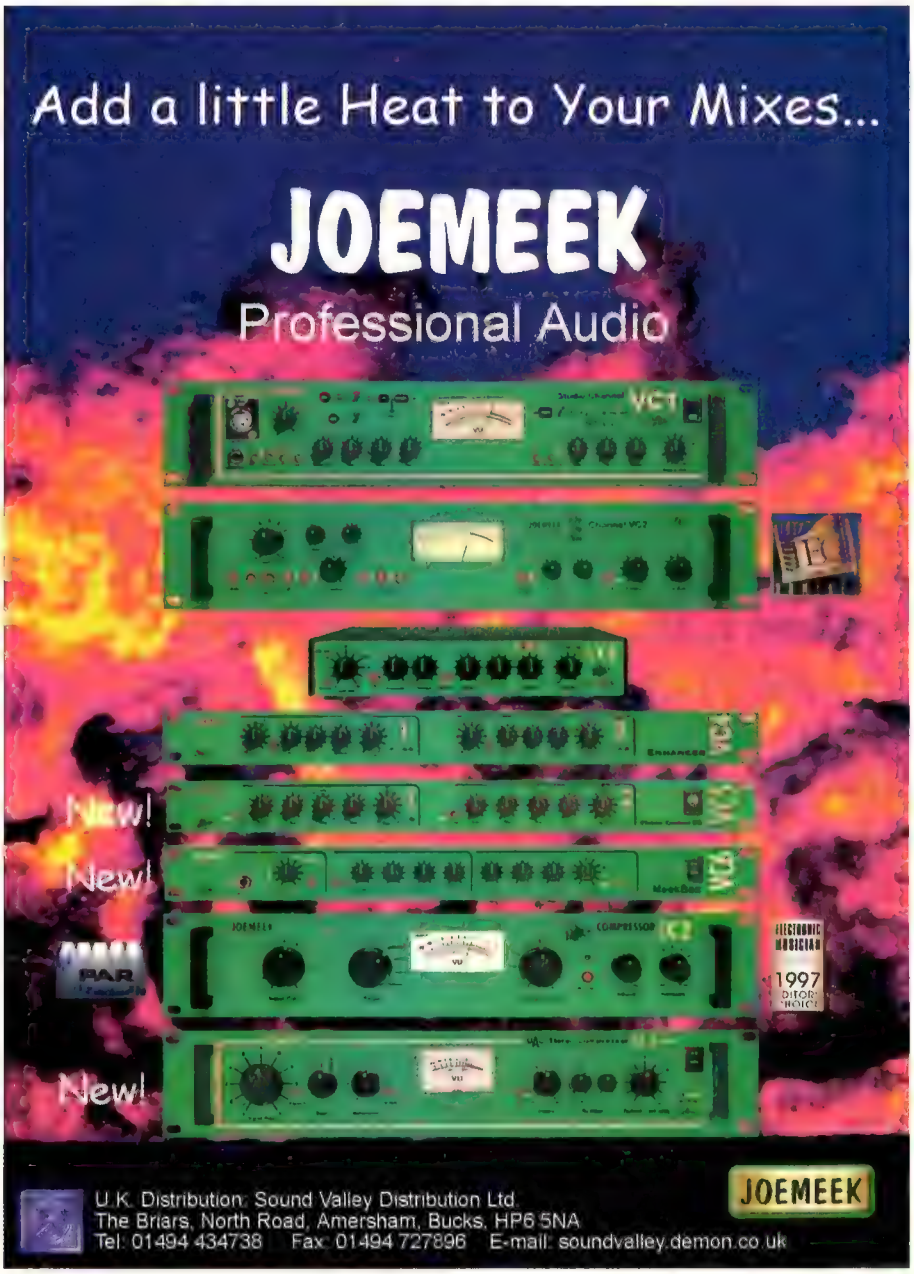
Consider the arranger. Sometimes brought in to compose for specific instruments such as brass or strings, arrangers can also provide the complex orchestration that accompanies an otherwise simple song. The classic example is 'Singing in the Rain'. The distinctive intro is the work of an arranger and no-one could imagine the song without it now. Producers play a similar role in specifying the needs of a song. George Martin suggested that the Beatles start 'She Loves You' with the chorus, rather than kicking off with the verse, and the rest is history. He didn't so much change the music, but rather changed the impact it had. So if you find that a tune isn't working then maybe you can simply change its shape, but don't rule out the need to write more music for an intro or middle eight.

Judgement day

Despite the cool audio tools and value-for-money instruments available today, you still have to make creative decisions. For those that use MIDI, being able to save different versions can be both a hindrance and a help for the obvious reason of choice. The fact is, you get too much choice, and end up unable to decide what to go with. More conventional recording musicians are usually faced with the choice of a few takes and then either comp'ing those tracks together, or going for a definitive take with drop-ins. At least this old-fashioned way helps keep the creative process moving, as you're not musing over two dozen sequences that sounded pretty good one night thanks to a mate's herbal remedies.

Moreover, we shouldn't underestimate the power of playing in comparison to programming. While very few of us would walk away from our MIDI gear, working with other musicians will always have its benefits. Not only do you get to learn from each other, but you get a very important addition to your audio armoury, namely a few more pairs of ears. The unfortunate thing is, you also get a handful of opinions too, but not to worry. Whether you're a solo sequencist or in a beat combo (m'lud) you can always do another mix to satisfy any nagging doubts. Your ears can be the judge later, but at least you've got a few choices. Curiously though, in time most of those minute details that took hours to fix or live with, become almost invisible as you start to hear the music as a whole. If they don't, then quite obviously there was something wrong. It could be that it was crap song in the first place. It's hardly unique, as we've all heard our share of them, but again, that's music for you. ■

Unfortunately, the journey of discovery that allows your creativity to mature can be very distracting. Just learning how to do MIDI sequencing is a task in itself



A&R dept

Welcome to the inner sanctum of *The Mix*'s A&R Department, where Nick Serre scrutinises your CD, cassette, DAT and vinyl demos for signs of musical and production talent.

We're looking for new, unsigned music which we think is genuinely going places. Impress us, and you might end up on *The Mix* CD...

DEMO OF THE MONTH

REVERBAPHON SPECIMEN

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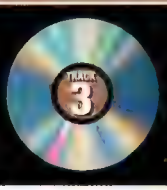


Verdict: A thoroughly original distillation of numerous strains of electronica intertwined with jazzy arrangements, and all manner of quintessential quirks. You'll be hearing more. I guarantee it.....9/10

A&R dept

KALIMERO
DEMO

Finnish Max Latva, aka Kalimero, records all his material live to DAT, because he "still can't get bloody Logic Audio to work properly." And adds, "But I am rather pretty, don't you think?" Yes, Max, you are, but it ain't gonna get you a record deal (well it might, but that's another kettle of fish). His music could, though. It's a kind of industrial drum & bass foray with poppy melodies. 'Wet Coat Winter' is an eerie, desolate affair, with dischordant backing sounds, a harsh lead line (which is perhaps mixed a little too high in the mix), and is set off wonderfully by an in-yer-face distorted vocal. The use of samples, which Max creates from scratch; "no vinyl or CDs here", he insists, win first prize in the originality stakes, as do the quirky arrangements and synth sounds used. 'I Done Kilt It But It Didn't Die' (great title, Max), is a bit more up tempo and jolly (well as jolly as he gets), but still fits into Kalimero's unique style. There's some astounding drum programming going on on this demo, and it reflects how much effort Max has put into producing it. He's got some classic bits of kit, including Roland Space Echo, Hammond Auto–Vari 64, Marion Pro Synth, Sherman Filter Bank and a Kivioja pre amp (no, I've never heard of it either). And he sure knows how to use the gear. I'm convinced there's a market for this kind of material, but more of the tracks would benefit from vocals to give them credibility. Get scribbling, mate, and you'll have some seriously good material.

Verdict: Not quite Finnish(ed).....7/10
More from: Sepankatu 1 B 22, Helsinki 15, Finland

JOHN JAMES
A WORLD WITHOUT A FACE

John James and writing partner Martin White cite a diverse range of influences, from Elvis' Costello and Presley, Sade, Billy Joel to Prefab Sprout, and have christened the style Swingpop. One influence they've neglected to mention is George Michael; opener 'Sexual Deception' smacks of Michael's earlier solo work. That's no criticism, though. John's dulcet vocals fit perfectly into the poppy backing, which is replete with sensual female backing vocals and a lush acoustic guitar. 'Explore' is a tad more jazzy, and the Sade influence is out in force. Again the intertwined male and female vocals work a treat, as do the sparse piano and squelchy bass line. I'm not sure about that snare sound though, chaps. On a ballad, a fairly long reverb on the snare can really lift the track. It's an old trick, but it works. Lyrically, the tracks are all love songs, but there's an interesting mistrust theme running through *A World Without A Face*. The title itself is refreshingly cynical. The closing title track, is, again a bit Mr. Michael, and is a melting pot of unconventional sounds and arrangement techniques. The mix deserves specific praise; all the parts are well-balanced, and John has the confidence in his vocal ability to mix them nice and high. If there's one criticism that could be levied at the material, it's that it's dated. But with music of this calibre, who cares? For one, not me.

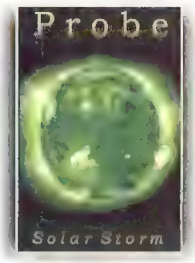
Verdict: Cool 80s pop.....8/10
More from: John James Tel: 0958 981598

KILBRIDE
DEMO

Remember 'Sunshine On A Rainy Day' by Zoe? Well, Kilbride is her latest project, and in a striking comparison to her previous hit, this is a more folky blend of styles, in an attempt to get back to "what's real in music." Working with Celtic musicians Sean and Ian, the demo proffers four tracks of heavily-Celtic inspired ditties, with lashings of Zoe's peachy tones. Opener 'Cryogenic' kicks off with beautifully harmonic acoustic guitars and sultry violin before Zoe's voice appears, perfectly melding with the fiddle part. The lyrics are obtuse, witty, and obviously heartfelt. There are elements of Kate Bush here, circa *Hounds Of Love*, along with traditional Celtic instrumentation and arrangements. The following tracks are largely of the same ilk. 'White Hart' is more lilting, and maintains a wonderfully eerie edge. 'Feed The Wild', and 'See Saw' are musically more lighthearted, but retain an ominous tinge. Sean and Ian have more than six years gigging experience, and it's obvious throughout Kilbride's demo. Tempo changes and general interaction abound – the band are bound to be a sight to behold on stage. Live appearances have already included Ronnie Scott's, The Purcell Rooms, and The Fringe Club at the Edinburgh Festival. Now, they're after that elusive record deal, as well as more live appearances. My feeling? If Clannad can do it, the Kilbride deserve to be up there too.

Verdict: Invite me to the wedding.....7/10
More from: Kilbride Tel: 0181 986 3038

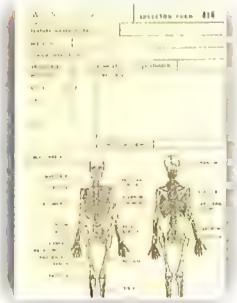
PROBE
SOLAR STORM



An interesting combination, this. Musician/programmer Gordon Leary is a veteran of the Irish band circuit, having played with numerous alternative and indie bands. Having taken the leap of going solo, his attention has turned to trippy drum & bass. Armed solely with a 486 PC, AWE32 soundcard and JV30 keyboard, "a great deal of imagination", and one day's recording in a local studio, he has produced the effervescently eclectic *Solar Storm*. Opener 'Sevenge', is a sort of Prodigy-inspired workout, replete with searing analogue sweeps and stabs, and manic drums. The title track is another full-on pumping track, and, as Gordon points out, could find a market in the computer games and film worlds, as well as the dance music market. The bass sounds and synth pads and lead lines, along with the ever-fluctuating arrangement, conjure up notions of helping Mario in his latest adventure. 'Sea of Clouds' has more of an ambient vibe, opening with mellow synth textures and Jarre-esque lead lines. I think those could've easily been omitted though. They really don't do anything for the track. In fact, they get a tad annoying. Which is a shame, because it's a top quality track. Don't be swayed by what others are doing, Gordon. Stick to the inherent originality in your material, and you'll deserve to do well.

Verdict: Original electronica.....7/10
More from: Gordon Leary Tel: +353 1 2840510

RICHARD WILEMAN
A WINTER IN SUMMERTIME



"The first fruits of a soundtrack to an imaginary fairy tale. Sometimes modern, sometimes gothic" is composer Richard Wileman's description of *A Winter In Summertime*. Brilliantly orchestrated with numerous themes running through the proceedings, it's a masterpiece of film soundtrack work. Other worldly vocals are supplied by Ileesha Bailey, adding a seriously sinister edge to the tracks. It's as subtle as anything, and it works an absolute treat. Recording was carried out at Richard's home studio, where he combines sequenced material with live instrumentation on his Roland VS880. Of the three tracks supplied, 'Second Sight' is perhaps the most endearing, conjuring up numerous images; from huge landscapes, to foreign climes and paintings. The production values are perfect for this kind of material, and the playing technique and arrangements are awesomely original. All the sounds sit well in the mix, are well-separated and panned, and the vocal texture just pushes it that extra bit further. Try getting the material out to production companies and library music types, and I'd been surprised if you don't receive some positive feedback from those kind of companies.

Verdict: Serene and spooky soundtrack.....8/10
More from: Richard Wileman Tel: 01793 870454

THIRD FACE
DEMO

Third Face cite influences as diverse as hip hop and jungle through jazz and classical. Their ethos is "using technology as a tool to capture the finest elements of both live and studio based music.." and they certainly hit the mark with the seven tracks supplied. 'Glimpsing' opens with a didgeridoo, of all things, and sets the scene perfectly before a drum & bass rhythm track, and lush vocals courtesy of Audrey Okyere–Fosu kick in. It's a bit like Everything But The Girl's d & b excursion, only much, much, better. There's everything in the mix, from tablas to growling synths, and the glory is that it all fits seamlessly. The track, like all the others, builds and lulls in all the right places, and has strong, captivating hook lines to boot. 'Tone Poem' is similarly esoteric, kicking off with broody pads and industrial-esque clanks. It's a real jazzer, too, in a menacing kind of way. It reminds me a bit of Prince's 'Condition Of The Heart' combined with Mick Hucknall-style vocalisations. A strange combination, but it sounds superb. It's nice and long too, so you can relax and go with the flow. Too many people try to cram all their ideas into far too short a space, so this really is a welcome relief, especially with ides of this magnitude. This isn't out-and-out commercial stuff; I can't really see a top ten smash here, at least not in its current form. But as a calling card for what Third Face are capable of, it's a perfect start to what could develop so much further.

Verdict: Don't turn the other cheek.....7/10
More from: Mark Young Tel: 01482 493533

GLOW
DEMO

George Coleman ain't got a lot of gear, but his Cakewalk PC set-up with Soundforge and Turtle Beach Tropez soundcard has enabled him to concoct three tracks of dark drum & bass nonetheless. The aptly titled 'Mercenary' is full of sweeping synths, pretty pads and a sublime piano part, which was created rather bizarrely. In George's words, "I painstakingly played the tunes from the Tropez card's onboard pianos as MIDI files, then to create a bit of realism, I taped the tunes on to cassette, recorded them back into the computer as WAV files, and then added effects until I came to the desired conclusion". Now that's what I call dedication. 'Edged' is in a similar vein, and is as haunting as it is melodic. The following tracks fall loosely into the same basket, and they all have some unique qualities. It's no mean feat to combine the ethereal moods that are all contained here, but George has harnessed a distinct style that is very much his own. Some of the tracks could either do with a few more parts, or a slightly less drawn-out arrangement. They are great album tracks, but there isn't one that stands out as a single. Going for the concept album approach might work well for Glow. It's a harder notion to sell to record companies and punters alike, but if that's OK with George, then fine, and I wish him all the luck in the world. Let's hope he can convince the A&R guys and gals.

Verdict: Stoke those embers.....7/10
More from: George Coleman Tel: 01582 488326

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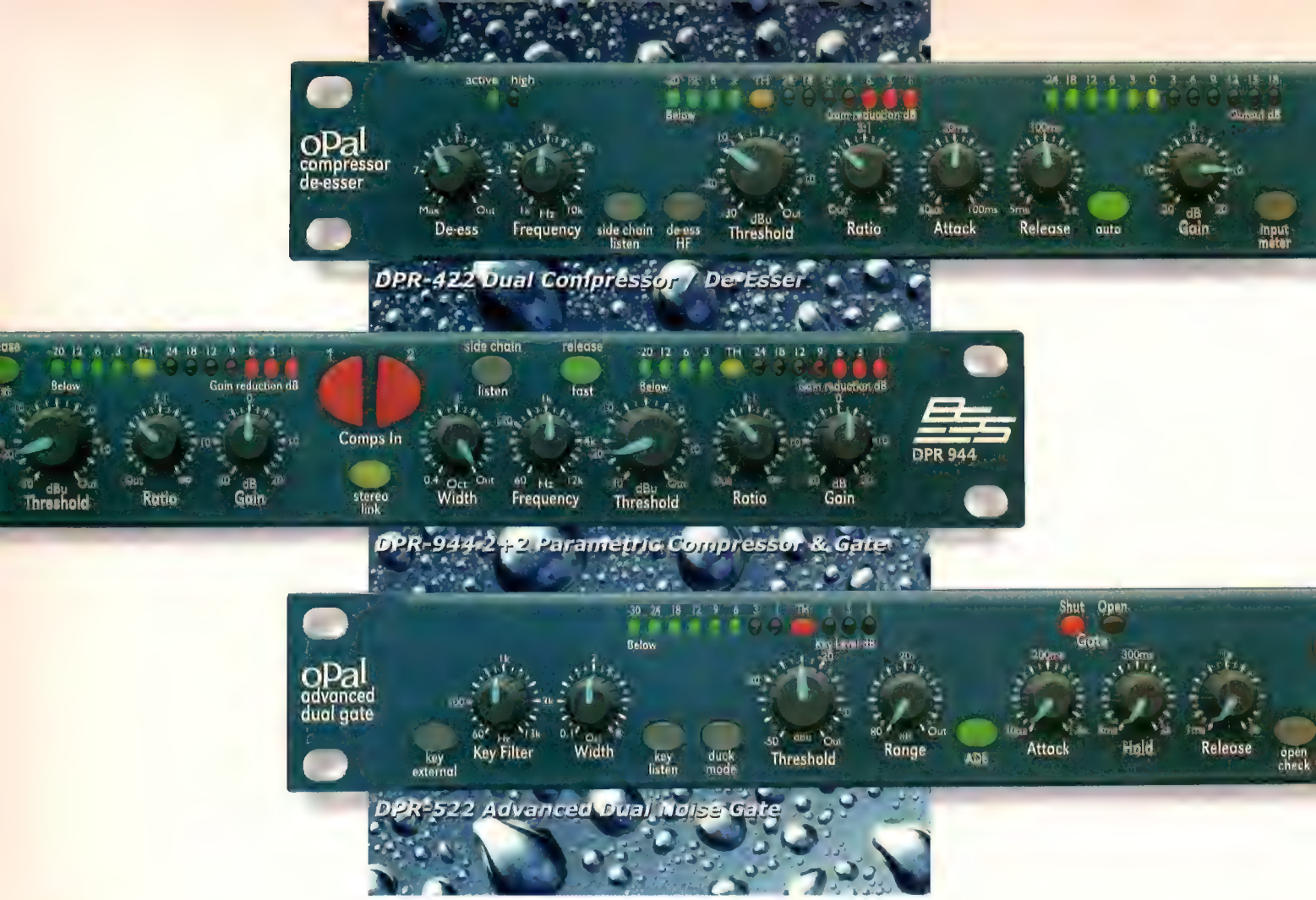

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THE MIX BUYER'S GUIDE

Welcome to *The Mix Buyer's Guide* – the definitive guide to new recording equipment. This month, synths, modules and drum machines have been added to the roster...

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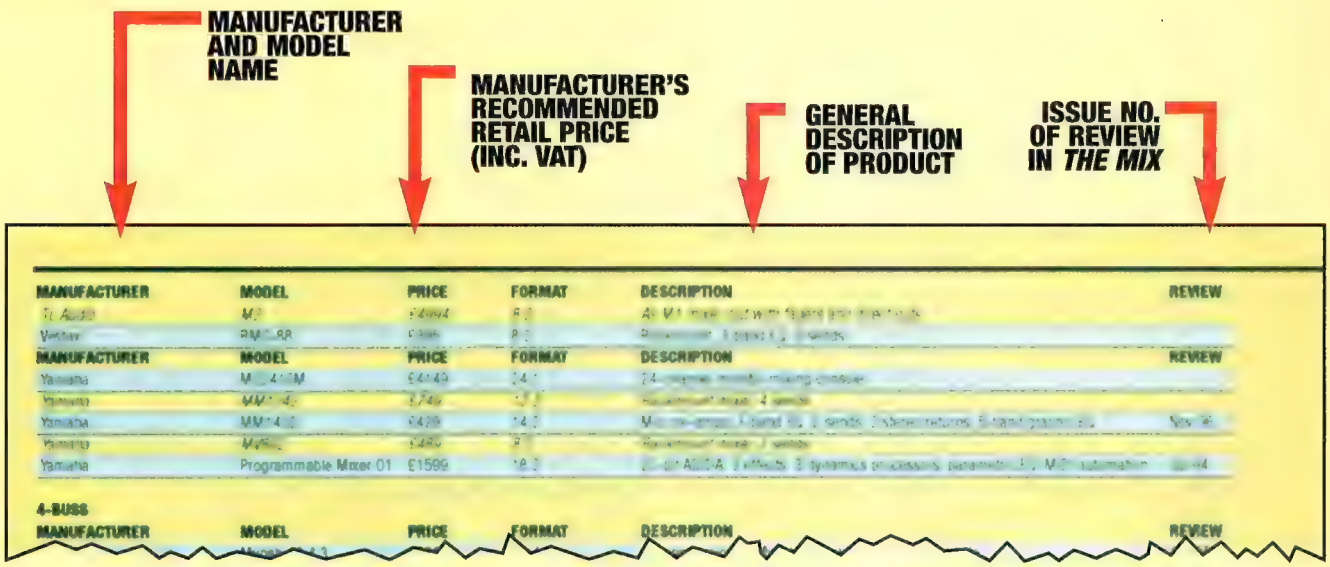

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F: 0171 428 9699
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F: 0181 809 1515
e-mail: r+w.proaudio@dial.pipex.com

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RICHARD ALLEN
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F: 01792 310248
e-mail: mktg@roland.co.uk
Web: www.roland.co.uk

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6–24 Southgate Road, London N1 3JJ
T: 0171 923 1892

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F: 0171 241 3644
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Web: www.scvlondon.co.uk

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F: 01494 551550
e-mail: sennheiseruk@compuserve.com
Web: www.sennheiser.com

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or: Stationswijk 73,
B 3272 Testiet, Belgium
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F: 0032 13 782 774
e-mail: sherman@tornado.be

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see MCMXCIX
Web: www.sfoundry.com

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Web: professional-audio.com

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Cranborne House, Cranborne Road,
Potters Bar, Hertfordshire EN6 3JN
T: 01707 665000
F: 01707 660742
e-mail: info@soundcraft.com
Web: www.soundcraft.com

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Web: www.soundtech.co.uk

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F: 01582 494343
Web: www.studiomaster.com

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Web: www.tannoy.com

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www.yamaha.co.jp/product/proaudio/homeenglish

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Buying Advice

Where to buy

- Mail-order companies may give you the best price, but don't count on getting any after-sales service.
- Local music shops are good for trying instruments out, but they may not have an expert on more specialised products.
- Pro audio specialists should offer expert advice on the most technical of recording and music gear. A good level of after-sales service should be provided.

Planning your purchase

- Check what is included in the price: cables, delivery, VAT? Adverts must by law say if VAT is *not* included. If it doesn't then VAT is included – check the fine print.
- If you're buying by mail, check price and availability. Just because a product is advertised, it doesn't mean it is available or in stock. Check what the company's policy is if you have problems, and get a definite delivery date.
- If buying in person, check everything works before leaving the shop. If buying by post, check the goods when they arrive. If you don't have time, mark the delivery note "goods not inspected". Don't use the product if you're not happy with it.
- Whether you buy from a shop or by mail, the laws states that a product must be: 1. "Of satisfactory quality" (i.e it works) 2. "As described" – this applies whether in an advert or in person (and also from a private seller). 3. Fit for the purpose for which it was sold or which you specified.
- If it doesn't meet any of these points, you are entitled to a full refund, or the replacement of the product.

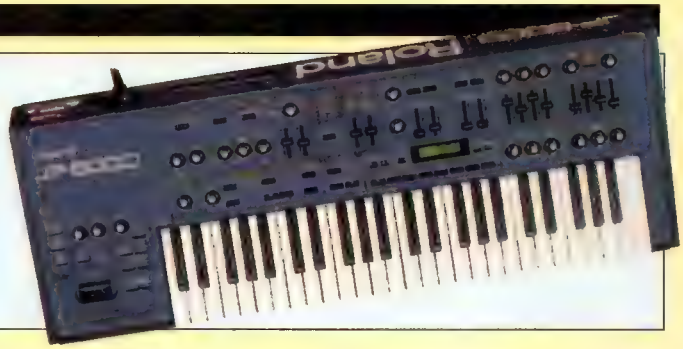
How to complain

- If you're not happy with your purchase, contact the dealer and explain the problem. If it isn't sorted, describe your problem in writing and explain how you want it resolved. Allow the dealer a couple of weeks to respond.
- If you're still not happy, you may need to take legal action. Seek advice from a solicitor, or from the following:
Citizens Advice Bureau, Trading Standards Office, Office of Fair Trading, County Court.

SOUND GEAR

FORMATS: Every studio should have a keyboard of some kind. Synthesizers and keyboards include standard 'playback' sample-based keyboards as well as more traditional synthesizers. Workstations combine some kind of sound synthesis with a keyboard, sequencer and effects for the ultimate all-in-one solution. Sound modules cover everything without a keyboard, ranging from computer sound modules to sophisticated workstations and analogue synthesizers. Modules may be desk-top, 19-inch rackmount or non-standard. Electronic percussion includes drum machines and percussion modules, and those controllers specific to their use.

POLYPHONY: More is generally better, though the number of notes you can play may be limited in some way by the multitimbral mode and arrangement.



SYNTHESIZERS & KEYBOARDS

MANUFACTURER	MODEL	PRICE	POLYPHONY	DESCRIPTION	REVIEW
Alesis	QS6	£949	64	Affordable synth featuring Quadrasynth sounds	Apr 96
Alesis	*QS7*	*£1299*	*64*	*QS synth with 76 keys and a few added extras*	*May 97*
Alesis	QS8	£1699	64	Heavyweight QS synth with 88 keys	May 97
Casio	*GZ-500*	*£399*	*32*	*61 key GM keyboard with speakers, pitch bend wheel*	*Aug 96*
Clavia	Nord Lead Classic	£999	4	Physical-modelling synth recreating analogue sounds	Jul 95
Clavia	*Nord Lead 2*	*£1495*	*16*	*As above, but new, shiny and improved*	*Sep 97*
Gem	RealPiano	£999	64	88 weighted keys with 8 piano-based sounds, 25W amplification	Nov 96
Kawai	*K11*	*£1049*	*32*	*128 GM sounds, other presets, drums, 2 MIDI Ins/Outs, Mac interface*	
Kawai	K5000S	£2000	32	61 keys, 4-part multi, 256 presets, 4 outputs, advanced-additive synthesis	Mar 98
Korg	*Prophecy*	*£999*	*1*	*High-end virtual monosynth*	*Oct 95*
Korg	X5	£799	32	Keyboard version of O5R/W mini-rack module	
Korg	*X5D*	*£899*	*64*	*8Mb wave memory, 61 keys, 47 effects through 2 processors*	
Korg	Z1	£1699	12	Multi-oscillator synthesizer	Nov 97
Kurzweil	*PC88*	*£1889*	*32*	*48 sounds with 88-key monitor keyboard and digital effects*	
Kurzweil	PC88MX	£2395	64	Double polyphony and 205 more programs than PC88	
Oberheim	*Eclipse*	*£1779*	*32*	*88-key weighted keyboard synth*	
Peavey	DPM2	£999	16	Good sounds – optional upgrade to include sequencer	
Quasimidi	*The Raven*	*£1599*	*21*	*Techno-geared synth with good sounds and innovative controllers*	*Mar 96*
Roland	JP-8000	£1199	8	A Jupiter-8 for the digital age	Mar 97
Roland	*JV-35*	*£999*	*24*	*Expandable synth, though keyboard lacks aftertouch*	
Roland	JV-35EX	£1149	56	As JV-35 with polyphony doubling VE-JV1EX5 card	
Roland	*JV-90*	*£1399*	*24*	*Expandable synth, 76-key*	
Roland	JV-90EX	£1555	56	As JV-35 with polyphony doubling VE-JV1 card	
Roland	*XP-10*	*£399*	*28*	*318 presets, 61 keys, arpeggiator*	
Spectral Audio	ProTone	£399	1	Monosynth	
Technics	*SX-WSA1*	*£2499*	*64*	*Sophisticated physical modelling synth*	*Feb 96*
Yamaha	AN1x	£899	10	Virtual analogue synth	Aug 97
Yamaha	*CBX-K1XG*	*£339*	*32*	*Combined mini-key controller keyboard and XG tone generation*	
Yamaha	CS1x	£599	32	Low-cost keyboard with high quality sounds	Aug 96
Yamaha	*VL-1*	*£3499*	*2*	*Virtual acoustic synth*	
Yamaha	VL-7	£2199	1	Monophonic 'budget' VL1 physical modelling synth	

WORKSTATIONS

MANUFACTURER	MODEL	PRICE	POLYPHONY	DESCRIPTION	REVIEW
Emu	E-Synth	£2999	64	Sampling workstation, combining on-board sounds, sampling and real-time control	
Ensoniq	*KS32*	*£1599*	*32*	*Machine with features of SQ2 and weighted keys*	
Ensoniq	KT76	£1999	64	76-key weighted key action with piano sounds	
Ensoniq	*KT88*	*£2149*	*64*	*88-key weighted-key action synth with piano sounds*	
Ensoniq	MR61	£1749	64	455 sounds, 16-track sequencer and disk drive	Jan 97
Ensoniq	*MR76*	*£1999*	*64*	*As above, but with 76-note keyboard*	*Jan 97*
Ensoniq	SQ-1 Plus	£899	32	180 sounds, 24-bit effects, only velocity-sensitive keyboard	
Ensoniq	*SQ-2*	*£1099*	*32*	*Adds aftertouch and 76 extra keys to SQ-1*	
Ensoniq	TS10	£1999	32	300 sounds, 254 waveforms, 24-track sequencer, 74 effects algorithms, disk drive	
Ensoniq	*TS12*	*£2199*	*32*	*76-note version of TS10*	
Gem	S2 Turbo	£1499	32	With fully usable sequencer section	
Gem	*S3 Turbo*	*£1799*	*32*	*Larger version of S3 with 76-note keyboard*	
Gem	SX2	£1626	32	61-key workstation with video features	
Gem	*SX3*	*£1826*	*32*	*76-key workstation with video features*	
Kawai	K5000W	£1750	32	Workstation incarnation of the K5000S	Feb 97
Korg	*i1*	*£3999*	*32*	*88 keys with unique variable keyboard function*	
Korg	i2	£2199	32	As below but with 76 keys	
Korg	*i3*	*£1899*	*32*	*PCM memory, multi effects, sequencer accompaniment*	
Korg	i4s	£1499	32	Scaled down version of i3 with built in speakers	
Korg	*i5s*	*£1099*	*32*	*Budget interactive workstation*	
Korg	iX300	£1344	32	Updated member of Korg's interactive workstation family	
Korg	*N264*	*£1499*	*64*	*An N364 with a 76-note keyboard*	*Dec 96*
Korg	N364	£1299	64	Korg takes the X workstation to the next generation	Dec 96
Korg	*Trinity*	*£1999*	*32*	*61-key workstation with 256 sounds and touch screen*	*Dec 95*
Korg	Trinity Plus	£2795	32	As Trinity with built-in Prophecy card	Feb 97
Korg	*Trinity Pro*	*£3195*	*32*	*76-note version of Trinity with Prophecy card*	*Feb 97*
Korg	Trinity ProX-88	£4795	32	88-note weighted version of Trinity with Prophecy card and hard-disk recording	Feb 97
Kurzweil	*K2vx*	*£2995*	*24*	*Updated K2000 with new set of sounds*	*Oct 96*
Kurzweil	K2000	£2250	24	Classic sound now updated with V3.0 sampling software	
Kurzweil	*K2000SE*	*£3499*	*24*	*Fully-expanded K2000 system with sampling sound blocks, flash RAM and a fan*	
Kurzweil	K2500	£2999	48	Latest version of K2000 series, double polyphony, improved sounds	
Kurzweil	*K2500/76*	*£3499*	*48*	*76-note version of K2500*	
Kurzweil	K2500/88	£3799	48	88 note version of K2500 with real time controllers	

MANUFACTURER	MODEL	PRICE	POLYPHONY	DESCRIPTION	REVIEW
Kurzweil	K2500SE	£4499	48	Fully expanded K2500 with sampling, flash RAM, sound blocks and fan	
Kurzweil	*K2500X*	*£3999*	*48*	*76-note weighted key version of K2500*	
Peavey	DPM2Si	£1399	32	76 keys, 8Mb ROM samples, 80,000 note sequencer, 10 drumkits, 4 audio outs	
Peavey	*DPM3-SE plus*	*£1499*	*16*	*Version of DPM2 with sample memory*	
Peavey	DPM4	£1999	16	Expanded version of DPM3 with extended keyboard	
Roland	*G-800*	*£1999*	*64*	*76-key 'intelligent', auto-arranging*	
Roland	JV-50	£1285	24	Expandable, with built-in MIDI file sequencer though keyboard lacks aftertouch	
Roland	*JV-50EX*	*£1399*	*56*	*As JV-50 with polyphony doubling VE-JV1EX5 card*	
Roland	XP-50	£999	64	61-key version of the JV-1080 with sequencer	Apr 95
Roland	*XP-80*	*£1499*	*64*	*Updated XP-50 with more outs and an arpeggiator*	*Jun 96*
Solton	MS50	£1799	28	61-key workstation, 256 GM sounds, 128 user memories, video out for karaoke	
Solton	*MS60*	*£1999*	*28*	*61-keys, 256 GM sounds, 128 user memories, video out for karaoke, live oriented*	
Yamaha	QS300	£1099	32	Advanced workstation with loads of playing features	
Yamaha	*W5*	*£1649*	*32*	*76-key sample playback workstation*	
Yamaha	W7	£1399	32	61-key sample playback workstation	Mar 95

MODULES

MANUFACTURER	MODEL	PRICE	POLYPHONY	DESCRIPTION	REVIEW
Akai	EWI3020m	£599	1	Mono wind sound module	Feb 95
Akai	*EWI3030m*	*£750*	*1*	*Waveform-based wind sound module*	*Feb 95*
Akai	SG01k	£299	32	Budget GM sound module	Apr 96
Akai	*SG01p*	*£299*	*32*	*Budget piano module*	*Mar 96*
Akai	SG01v	£299	32	Budget vintage synth module	Jun 96
Alesis	*NanoBass*	*£249*	*64*	*64-voice stereo bass module*	*Oct 97*
Alesis	NanoPiano	£339	64	64-voice stereo piano module	
Alesis	*QSR*	*£749*	*64*	*Sound module with expandability options*	*Jul 97*
Alesis	S4 Plus	£899	64	Rackmount piano module	
Casio	*GZ-50M*	*£199*	*32*	*Low-cost GM module with effects*	*Nov 95*
Clavia	Nord Rack	£1295	4	Rack version of the Nord Lead VS analogue synth	
Control Synthesis	*Deep Bass 9*	*£449*	*1*	*Analogue bass module*	*Nov 94*
Doepfer	A-100	£999	n/a	23 module expandable analogue modular patch synth	Feb 97
Doepfer	*A-100 Mini*	*£699*	*n/a*	*Cheaper, smaller version of the A-100*	
Doepfer	MS-404	£345	1	'Real' rackmount synth, TB-303 analogue clone	
E-mu	*Carnaval*	*£899*	*32*	*Latino sound module*	*Aug 97*
E-mu	Classic Keys	£648	32	Rackmount classic synths sound module	Feb 95
E-mu	*Morpheus*	*£1199*	*32*	*Z-plane synthesis module with filter effects*	
E-mu	Orbit	£869	32	Dance-based sound module	Jul 96
E-mu	*Planet Phatt*	*£899*	*32*	*Swingbeat and funk sounds in Orbit-like rack unit*	*Aug 97*
E-mu	Pro-formance 1+	£359	32	Rack module with more sounds than standard unit	
E-mu	*Proteus 2 Orchestral*	*£810*	*32*	*Orchestral sound module with 192 presets*	
E-mu	Proteus 2 XR	£975	32	Orchestral sound module with 512 presets	
E-mu	*Proteus FX*	*£610*	*32*	*Proteus sounds and digital effects*	*Aug 94*
E-mu	UltraProteus	£1499	32	Proteus sounds with Z-plane filtering	Nov 94
E-mu	*Vintage Keys Plus*	*£1055*	*32*	*Classic keyboard sounds module*	
Ensoniq	MR-Rack	£1299	64	Flexible synth box	Jul 96
Exclusively Analogue	*The Aviator*	*£950*	*3*	*Semi-modular analogue synth*	*Apr 96*
FAT	Freebass 383	£199	1	TB-303 emulation	
Gem	*RealPiano Expander*	*£449*	*64*	*Module version*	*Aug 97*
Gem	S2R	£1399	32	Rackmount version of S2 synth plus Turbo kit	
Hammond	*GM-1000*	*£549*	*32*	*True Hammond organ samples*	
Hammond	XM1	£799	64	Digitally-programmable Hammond sounds in a box	Oct 96
Kawai	*GMega*	*£689*	*32*	*GM/SP banks, 14 drum kits, Mac interface*	
Kawai	GMega XC3	£384	28	Cut-down GMega with no panel controls	
Kawai	*K5000R*	*£999*	*32*	*Rackmounted additive synthesis module*	
Korg	i5m	£899	32	Desktop workstation with harmonies and accompaniments	
Korg	*NS5R*	*£599*	*64*	*Desktop module that goes way beyond the usual GM limitations*	*Apr 97*
Korg	05R/W	£499	32	128 presets, effects, Mac/PC/MIDI interface	
Korg	*TR-Rack*	*£999*	*32*	*The Trinity workstation in a box without the sequencer, interface, expansion options*	*Apr 98*
Korg	*X5DR*	*£675*	*64*	*Rackmount version of X5D keyboard*	*Jul 95*
Kurzweil	K2000R	£2250	24	Hi-spec module with sampling, SCSI, 10 outputs	
Kurzweil	*K2000RSE*	*£3499*	*24*	*Fully expanded K2000R*	
Kurzweil	K2500R	£2999	48	New version of K2000R with doubled polyphony	Sep 95
Kurzweil	*K2500RSE*	*£4499*	*48*	*Fully expanded K2500R*	
Longwave Instruments	Pocket Theremin	£99	1	Pitch-only version of the classic synth	
Marion Systems	*MSR2*	*£1299*	*8*	*Expandable analogue synth module*	
Marion Systems	ProSynth	£699	8	Multitimbral analogue rackmount	Jun 95
MIDIman	*Gman*	*£199*	*24*	*GM/GS compatible module*	
Novation	Super Bass Station	£449	1	Much improved on the original keyboard, complete with arpeggiator	Aug 97
Oberheim	*Matrix 1000*	*£379*	*6*	*Loads of fat analogue sounds, but no multi mode*	
Oberheim	OBMX	£1500	2	2-voice rackmount, extra 2-voice cards @ £500 each	
Orgon	*Enigiser*	*£469*	*1*	*No MIDI*	*Dec 96*
Peavey	Spectrum Bass II	£350	8	Rackmount bass synth module	Spr 97
Peavey	*Spectrum Organ*	*£349*	*32*	*Organ rack module with rotary speaker sim*	*Aug 95*
Peavey	Spectrum Synth	£349	12	Rackmount sample playback synth module	Oct 95
Quasimidi	*Quasar*	*£1099*	*21*	*Flexible-structure synth module*	*Oct 94*
Quasimidi	Rave-O-Lution	£649	16	Synthesizer and arranger	Aug 97
Quasimidi	*Technox*	*£749*	*21*	*Techno/dance-oriented synth module*	*Apr 95*
Roland	GR-30	£649	28	Budget guitar synth, needs GK-2A pick-up	Jul 94
Roland	*JV-1080*	*£999*	*64*	*Expandable Super JV synth module*	*Dec 94*
Roland	JV-2080	£1399	64	A JV-1080 with more effects, more sounds, graphics and 8 expansion slots	Apr 97
Roland	*M-BD1*	*£399*	*28*	*Sampled drums and live bass sound module*	*May 97*
Roland	M-DC1	£499	28	Preset dance module with T+S rhythm loops	Sep 95

MANUFACTURER	MODEL	PRICE	POLYPHONY	DESCRIPTION	REVIEW
Roland	M-GS64	£599	64	Preset-based GM synth module	Nov 95
Roland	M-OC1	£499	28	Preset orchestral module	Sep 95
Roland	M-SE1	£499	28	Preset string module	
Roland	*MT 120S*	*£899*	*24*	*Sequencer with built-in sounds and speakers*	
Roland	MT 80S	£499	24	MIDI file player	
Roland	*M-VS1*	*£499*	*28*	*Preset vintage synth module*	*Sep 95*
Roland	SC-55ST	£365	28	Sound Canvas with 354 sounds, 10 drumkits	
Roland	*SC-7*	*£290*	*24*	*DTM-geared sound module for Macs and PCs*	
Roland	SC-88	£869	24	Super Sound Canvas with better editing	Jan 95
Roland	*SC-88Pro*	*£699*	*64*	*Super Sound Canvas with effects and over 1000 sounds*	*Jun 97*
Roland	SC-88VL	£649	64	Super Sound Canvas with effects and 654 sounds	
Roland	*SD-35*	*£785*	*24*	*Combined file-player and sound module*	
Roland	VG-8	£1999	6	Virtual modelling guitar system	Oct 95
Solton	*MS40*	*£1499*	*28*	*256 GM sounds, user memories and video output for karaoke*	
Spectral Audio	ProTone	£399	1	Analogue rack with reduced MIDI spec	Sep 96
Studio Electronics	*ATC-1*	*£799*	*1*	*Rackmount analogue monosynth*	*May 97*
Studio Electronics	SE-1	£1522	1	Rackmount programmable Minimoog clone	
Syntecno	*TeeBee*	*£529*	*1*	*Mono sound, loads of CV/gate support*	*Mar 97*
Technics	SX-WSA1R	£2199	64	Acoustic modelling rack version of WSA1	
Waldorf	*Microwave II*	*£999*	*8*	*Highly programmable rack synth*	
Waldorf	Pulse	£599	1	Highly programmable analogue synth	Feb 96
Waldorf	*Pulse Plus*	*£700*	*1*	*Expanded Pulse, extra analogue sync and external source options*	
Will Systems	MAB-303	£399	1	303 clone	
Yamaha	*MU5*	*£199*	*28*	*Entry-level GM in Walkstation style, but without sequencer or effects*	*Apr 95*
Yamaha	MU50	£349	32	Cut-down version of the MU80	Sep 95
Yamaha	*MU80*	*£599*	*64*	*GM/XG module with big polyphony and external input*	
Yamaha	MU90R	£549	64	Combination of Yamaha's soundcard technology to succeed the MU80	Spr 97
Yamaha	*MU100R*	*£849*	*64*	*Combines sample playback with physical modeling*	*Dec 97*
Yamaha	P50-m	£349	32	Piano module based on acclaimed Yamaha digital piano range	Feb 97
Yamaha	*QY300*	*£599*	*Table unit*	*GM sound module, sequencer and auto-accompaniment player in one*	*Sep 94*
Yamaha	VL1-m	£2349	2	Rackmount version of VL-1 physical modeling synth	Dec 94
Yamaha	*VL70-m*	*£499*	*1*	*Very affordable virtual synthesis module*	*Dec 96*

ELECTRONIC PERCUSSION

MANUFACTURER	MODEL	PRICE	SOUNDS	DESCRIPTION	REVIEW
Alesis	DM5	£429	540	Drum module with 12 trigger inputs and 21 programmable drumkits	
Alesis	*SR16*	*£265*	*233*	*Great sounding, but basic, drum workhorse*	
Boss	DR-5	£359	96	Simple rhythm and bass line beat box	
Boss	*DR-550 Mk II*	*£285*	*96*	*Updated and restyled version of classic Dr Rhythm*	
Boss	DR-660	£459	255	Cost-conscious drum box with loads of sounds	
Clavia	*ddrum3*	*£3600*	*n/a*	*Pro-spec electronic drumkit and trigger computer*	
E-mu	Pro-cussion	£645	220	Massive-sounding percussion sound module	
JoMoX	*XBase 09*	*£699*	*10*	*TR-909 clone*	
Kawai	GB-2	£309	119	55 rhythms, 10 songs, card slot. Aimed at guitarists	
Korg	*WD1 Wave Drum*	*£1995*	*100*	*Physical modelling UFO-like synth drum*	*Jan 95*
Novation	DrumStation	£449	40	TR-808 and TR-909 sounds in a superbly programmable unit	Jul 96
Roland	*TD-5K*	*£1095*	*210*	*As the TD-5K/P without the stand*	
Roland	TD-5K/P	£1350	210	Basic electronic drum system with pads	
Roland	*TD-10*	*£1399*	*654*	*Modular 'brain' of the V-Drum system*	*Apr 98*
Roland	V-Drums	£2599	654	TD-10 module with PD100/PD120 pads, plus PD7, PD9, KD7, FD7 controllers	Apr 98
Yamaha	*DD9*	*£100*	*55*	*Beginners drum-pad system, 4 pads, 10 rhythms*	
Yamaha	RY20	£399	300	50 song presets, good sounds, effects and human groove feature	Oct 94
Yamaha	*RY8*	*£239*	*128*	*Walkman-like drum machine with backings and styles*	

MIGHTY MODULES

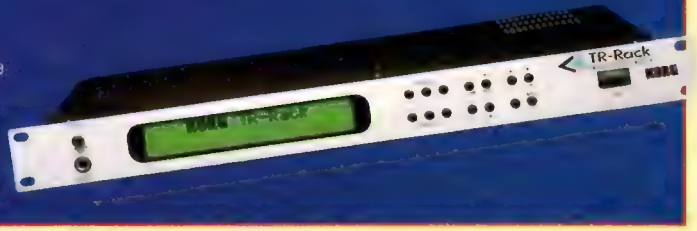
All sound synthesis depends upon two factors: a sound source, and a controller that tells the source what to do. There are many possible controllers (guitars, light beams, wind instruments) but the sources themselves are always electronic. Throughout the 1960s, the most common combination was that of a piano-style keyboard coupled to a selection of analogue electronics that generated the sounds.

In 1970, the Minimoog became the first instrument to incorporate the controller (its keyboard) and sound sources in a single box. The 1970s then became the heyday of the integrated analogue synthesizer – so much so that most players forgot the distinction between the keyboard and the sound generator. This was also true when the earliest polyphonic synthesizers appeared, although a few, such as the Korg PS3200 and Oberheim 4-Voice, still demonstrated the distinction between the keyboard and the modules that it controlled.

It was after the development of digital synthesis and MIDI that the sound module came of age. Suddenly, a synthesizer no longer needed a keyboard, and small boxes could contain all the sound-generating capabilities of their predecessors, but without the bulk. Developments in digital electronics then made it possible to incorporate eight, 16 or even 32 synthesizers in a unit, and thus the multi-timbral 'expanders' of the 1990s were born.

Most expanders can cope with a wide range of requirements, and many conform to the GS- and GM- standards that allow you to play other performers' MIDI sequences. Some cater for specific needs, witness the proliferation of drum & bass modules, drum machines, piano modules, and more unusual units such as Emu's Carnaval. Others, such as Yamaha's VL70M, concentrate on imitating orchestral instruments, while yet others recreate the sounds of earlier synthesizers. Many, such as Roland's JV2080, offer plug-in cards that further expand the expander.

Most expanders incorporate powerful digital effects units such as reverbs and modulation effects, but it is in this department that they are least satisfactory. This is because, although the box may generate 16 different sounds simultaneously, it often has just two effects units that affect all the voices. Korg's TR-Rack, with its eight independent effects, is the exception to this. • *Gordon Reid*



MICROPHONES

TYPE: Typically, condenser mics are more expensive than dynamic mics, but give higher sound quality. They require power to work, either from a battery or from phantom powering. Dynamic mics are more robust and so are generally used for live applications. Stereo mics can be either condenser or dynamic.

PATTERN: Mics have different directional responses. Omnidirectional mics respond to sound from all sides, unidirectional from just one direction. The latter category includes cardioid, hypercardioid and supercardioid mics, which have more-or-less heart-shaped patterns. Figure-of-8 mics are bi-directional with two active and two 'dead' spots. You can change the capsule on some mics to get a variable response.

FREQUENCY RESPONSE: Mics pick up sound over certain frequency ranges. Condenser mics generally have the widest frequency response, though many mics are optimised for the intended purpose (vocals, acoustic instruments, drums).

CONDENSER

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
AKG	C 12 VR	£3700	Large twin diaphragm, 9 patterns, 30Hz–20kHz, 2 filters, PSU	
AKG	*C 391 B*	*£351*	*Cardioid, 20Hz–20kHz, LF roll-off filter, phantom powered*	
AKG	C 411	£123	Vibration pick-up, 10Hz–18kHz, phantom powered	
AKG	*C 411 B-Lock*	*£88*	*Battery-powered version of C 411*	
AKG	C 414 B-ULS	£1174	Large twin diaphragms, 4 patterns, 20Hz–20kHz, LF roll-off filter, phantom powered	
AKG	*C 414 B-TL II*	*£1231*	*Transformer-less version of C 414 B-ULS for vocals*	
AKG	C 416	£159	Hypercardioid, 20Hz–20kHz, phantom powered	
AKG	*C 416 B-Lock*	*£118*	*Battery-powered version of C 416*	
AKG	C 418	£159	Hypercardioid, 50Hz–20kHz, phantom powered	
AKG	*C 419*	*£159*	*Hypercardioid, 20Hz–20kHz, battery or phantom powered*	
AKG	C 419 B-Lock	£123	Battery-powered version of C 419	
AKG	*C 420*	*£182*	*Cardioid, 20Hz–20kHz, battery or phantom powered*	
AKG	C 420 B-Lock	£135	Battery-powered version of C 420	
AKG	*C 460 B with ULS/61*	*£646*	*Cardioid, 20Hz–20kHz, LF roll-off filter, phantom powered*	
AKG	C 535 EB	£452	Cardioid, 20Hz–20kHz, 2 filters, phantom powered	
AKG	*C 1000 S*	*£199*	*Cardioid/hypercardioid, 50Hz–20kHz, battery or phantom powered*	*Oct 96*
AKG	C 3000	£299	Cardioid/hypercardioid, 20Hz–20kHz, phantom powered	Oct 96
AKG	*C 5600*	*£306*	*Cardioid, 20Hz–20kHz, 2 filters, phantom powered*	
AKG	C 5900	£246	Hypercardioid, 20Hz–20kHz, 2 filters, phantom powered	Aug 94
Audio-Technica	*AT4041*	*£320*	*Cardioid electret, LF roll-off filter, phantom powered, for vocals, acoustic guitar*	*Oct 96*
Audio-Technica	AT4043	£652	Cardioid electret, LF roll-off filter, for vocals	Oct 96
Audio-Technica	*ATM15A*	*£150*	*Cardioid clip-on mic for acoustic instruments, battery or phantom powered*	
Audio-Technica	ATM33A	£150	Cardioid electret, battery or phantom powered, for instruments and vocals	
Audio-Technica	*ATM87R*	*£300*	*Unidirectional, LF roll-off filter, integral pre-amp, phantom powered*	
Audio-Technica	ATM89R	£200	Hypercardioid (other capsules available), 70Hz–20kHz, phantom powered	Mar 98
Audio-Technica	*PRO35X*	*£140*	*Miniature clip-on instrument mic, phantom powered*	
Beyerdynamic	MC 711	£528	Omnidirectional, 40Hz–20kHz, LF roll-off filter, phantom powered	
Beyerdynamic	*MC 713*	*£586*	*Cardioid, 40Hz–20kHz, LF roll-off filter, phantom powered*	
Beyerdynamic	MC 740	£1291	Large diaphragm, 5 patterns, 20Hz–20kHz, 3 filters, phantom powered	
Beyerdynamic	*MC 834*	*£868*	*Cardioid, 2 filters, for vocals, acoustic guitar*	*Oct 96*
Beyerdynamic	MCE 80 TG	£293	Cardioid, 50Hz–18kHz, battery or phantom powered	
Beyerdynamic	*MCE 81 TG*	*£234*	*Cardioid, 50Hz–18kHz, phantom powered*	
Beyerdynamic	MCE 83	£222	Cardioid, 40Hz–20kHz, phantom powered	Nov 95
Beyerdynamic	*MCE 84*	*£269*	*Cardioid, 40Hz–20kHz, battery or phantom powered*	
Beyerdynamic	TG-X 30.15	£304	Omnidirectional electret, 30Hz–20kHz, head-worn	
Beyerdynamic	*TG-X 35.15*	*£304*	*Cardioid electret, 40Hz–17kHz, head-worn*	
CAD	Equitek E-100	£299	Supercardioid electret, 10Hz–18kHz, LF roll-off filter, battery or phantom powered	Feb 97
CAD	*Equitek E-200*	*£449*	*2 cardioid, 3 pattern, 10Hz–18kHz, LF roll-off filter, battery or phantom powered*	*Feb 97*
CAD	Equitek E-300	£699	2 cardioid, 3 pattern, 10Hz–20kHz, LF roll-off filter, battery or phantom powered	Feb 97
Earthworks	*OM1*	*£499*	*Omnidirectional, 12Hz–22kHz, phantom powered, for acoustic guitar, electric bass*	*Dec 96*
Electro-Voice	RE 200	£279	Cardioid, for live or studio, vocals or instruments	Oct 96
Groove Tubes	*MD1a*	*£599*	*Tube condenser, cardioid*	*Mar 96*
Groove Tubes	MD2a	£989	Tube condenser, cardioid,	Mar 96
Groove Tubes	*MD3a*	*£1369*	*Tube condenser, cardioid, sub-cardioid, omni*	*Mar 96*
Groove Tubes	MD5sc	£499	Cardioid, includes case and shockmount	
Langevin	*CR-3A*	*£385*	*Cardioid, LF roll-off filter, for vocals*	*Oct 96*
Neumann	TLM 193	£999	Cardioid, for vocals	Oct 96
Røde	*NT1*	*£329*	*Cardioid, for vocals, instruments*	*Aug 97*
Røde	NT2	£499	Omnidirectional/cardioid, LF roll-off filter, for vocals, acoustic guitar	Oct 96
Sennheiser	*K6*	*£206*	*Powering module with bass attenuator, integral XLR connector*	
Sennheiser	ME 62	£129	Omnidirectional capsule for K6 system	
Sennheiser	*ME 64*	*£152*	*Cardioid capsule for K6 system*	
Sennheiser	ME 65	£200	Supercardioid vocal capsule for K6 system	
Shure	*BG4.1*	*£182*	*40Hz–18kHz, battery or phantom powered, for live or studio instruments*	*Spr 97*
Shure	BG5.1	£182	70Hz–16kHz, battery or phantom powered, for live or studio vocals	Spr 97
Shure	*BETA 87*	*£382*	*Supercardioid, 50Hz–16kHz, phantom powered, for live vocals*	*Oct 96*
Shure	Prologue 16L-LC	£93	Cardioid, 50Hz–15kHz, battery powered, for live or studio acoustic instruments	
Shure	*SM81-LC*	*£444*	*Cardioid, 20Hz–20kHz, phantom powered, for live or studio acoustic sources*	
Shure	SM87-LC	£294	Supercardioid, 50Hz–16kHz, phantom powered, for live vocals	
Shure	*SM94-LC*	*£237*	*Supercardioid, 50Hz–16kHz, battery or phantom powered, multipurpose*	
Shure	SM98A	£257	Cardioid/supercardioid, 40Hz–20kHz, phantom powered, for acoustic instruments	
Soundfield	*SPS422*	*£1875*	*4 sub-cardioid, infinite patterns, 20Hz–20kHz, LF roll-off filter, PSU*	*Aug 96*

DYNAMIC

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
AKG	D 3700	£123	Vocal mic	Sep 96
AKG	*D 3900*	*£234*	*Vocal mic*	*Sep 96*
AKG	D 770	£79	Cardioid instrument mic	
AKG	*D 880*	*£85*	*Supercardioid, 60Hz–20kHz, anti-vibration system, for vocals*	
AKG	D 880S	£89	As D 880, but with on/off switch	
Audio-Technica	*ATM23He*	*£150*	*Hypercardioid, 70Hz–16kHz, for percussion*	*Mar 98*
Audio-Technica	ATM25	£175	Bass drum and toms mic	
Audio-Technica	*ATM63He*	*£130*	*Instrument mic, 2 per pack*	

Audio-Technica	ATR20	£20	Unidirectional, 80Hz–12kHz, for vocals, instruments	
Audio-Technica	*ATR30*	*£35*	*Unidirectional, 60Hz–12kHz, for vocals, instruments*	
Audio-Technica	ATR40	£55	Unidirectional, 60Hz–12kHz, for vocals, instruments	
Audio-Technica	*MB-3000L*	*£95*	*Vocal and instrument mic*	*Sep 96*
Audix	D-1	£149	Hypercardioid, 38Hz–21kHz, for snare drums, cymbals, brass	Jul 97
Audix	*D-2*	*£149*	*Hypercardioid, 38Hz–21kHz, for toms, percussion, horns*	*Jul 97*
Audix	D-3	£149	Hypercardioid, 38Hz–21kHz, for kick drums, amps	Jul 97
Audix	*OM-3xb*	*£119*	*Hypercardioid, 38Hz–21kHz, for live vocals*	*Nov 96*
Audix	OM-5	£199	Hypercardioid, 40Hz–20kHz, for live vocals	
Audix	*OM-7*	*£249*	*Hypercardioid, 38Hz–21kHz, for live vocals*	*Nov 96*
Benson	BA25	£50	Cardioid, 50Hz–15kHz, for live vocals	Sep 97
Benson	*BA30*	*£60*	*Cardioid, 50Hz–15kHz, for live vocals and instruments*	*Sep 97*
Benson	ND90	£120	Hypercardioid, 50Hz–18kHz, for live vocals	Sep 97
Beyerdynamic	*Drum Package*	*£551*	*4xTG-X 5, 1xTG-X 50*	
Beyerdynamic	TG-X 5	£105	Hypercardioid, 40Hz–12kHz, for percussion	
Beyerdynamic	*TG-X 20*	*£163*	*Hypercardioid, 45Hz–16kHz, for vocals, amps*	
Beyerdynamic	TG-X 21	£175	As TG-X 20, but with on/off switch	
Beyerdynamic	*TG-X 40*	*£187*	*Hypercardioid, 35Hz–16kHz, for acoustic sources*	
Beyerdynamic	TG-X 41	£199	As TG-X 40, but with on/off switch	
Beyerdynamic	*TG-X 50*	*£222*	*Hypercardioid, 15Hz–18kHz, for percussion*	
Beyerdynamic	TG-X 60	£234	Hypercardioid, 40Hz–18kHz, for vocals	Sep 96
Beyerdynamic	*TG-X 61*	*£246*	*As TG-X 60, but with on/off switch*	
Beyerdynamic	TG-X 80	£273	Hypercardioid, 30Hz–18kHz, for acoustic sources	
Beyerdynamic	*TG-X 81*	*£304*	*As TG-X 81, but with on/off switch*	
Beyerdynamic	M 01	£69	Supercardioid, 50Hz–15kHz, for vocals and instruments	
Beyerdynamic	*M 02*	*£76*	*Supercardioid, 50Hz–15kHz, for vocals*	
Beyerdynamic	M 03	£81	As M 02, but with on/off switch	
Beyerdynamic	*M 04*	*£88*	*Supercardioid, 40Hz–16kHz, for vocals and instruments*	
Beyerdynamic	M 05	£93	As M 04, but with on/off switch	
Beyerdynamic	*M 69 TG*	*£199*	*Hypercardioid, 50Hz–16kHz, for vocal sources*	
Beyerdynamic	M 88 TG	£316	Hypercardioid, 30Hz–20kHz, for vocals, brass and kick drums	Sep 96
Beyerdynamic	*M 201*	*£234*	*Hypercardioid, 40Hz–18kHz, for toms*	
Beyerdynamic	M 300 TG	£116	Cardioid, 50Hz–15kHz, for vocals	
Beyerdynamic	*M 300 TG*	*£128*	*As above, but with on/off switch*	
Beyerdynamic	M 420 TG	£163	Hypercardioid, 100Hz–12kHz, for vocals and percussion	
Beyerdynamic	*M 422 TG*	*£93*	*Supercardioid, 100Hz–12kHz, for snare drums and other acoustic sources*	
Electro-Voice	N/D 957	£299	Supercardioid, for vocals and instruments	
Roland	*D-10*	*£49*	*Hypercardioid, for vocals, bass guitar, kick drum*	*May 97*
Roland	D-20	£89	Hypercardioid, for vocals, cymbals, hi-hats	May 97
Sennheiser	*BF 504*	*£108*	*Cardioid instrument mic*	
Sennheiser	BF 521	£278	Cardioid all-purpose mic suitable for live and studio work	
Sennheiser	*BF 531 II*	*£300*	*Supercardioid, adjustable inlet basket, for vocals*	*Sep 96*
Sennheiser	Drum Set 504	£519	4xMD 504 with 4xMZH 504 universal drum clamps in a case	
Sennheiser	*MD 421*	*£337*	*As BF 521, but with 5 position LF roll-off switch*	
Sennheiser	MD 425	£200	Supercardioid, feedback rejection, for vocals	
Sennheiser	*MD 431 II*	*£300*	*Supercardioid, feedback rejection, for vocals*	
Sennheiser	MD 441U	£586	Supercardioid, bass- and treble-cut switches, for studio vocals	
Sennheiser	*MD 504*	*£125*	*Cardioid instrument mic with drum clamp*	
Sennheiser	MD 735-US	£102	Supercardioid, feedback rejection, for vocals	
Sennheiser	*MD 736*	*£114*	*As MD 735-US, but with on/off switch*	*Sep 96*
Shure	520D	£116	Omnidirectional, 100Hz–5kHz, for harmonicas	
Shure	*55SH Series II*	*£233*	*Cardioid, 50Hz–15kHz, for live vocals with a nostalgic appearance*	
Shure	BETA 52	£264	Supercardioid, 20Hz–10kHz, for live kick drums	
Shure	*BETA 56*	*£176*	*Supercardioid, 50Hz–16kHz, for live drums, instruments*	
Shure	BETA 57A	£159	Supercardioid, 50Hz–16kHz, for live acoustic or electric instruments, vocals	Sep 96
Shure	*BETA 58A*	*£194*	*Supercardioid, 50Hz–16kHz, for live vocals*	
Shure	BG1.1	£42	80Hz–12kHz, for live or studio, vocals or instruments	Spr 97
Shure	*BG2.1*	*£62*	*70Hz–13kHz, for live vocals*	*Spr 97*
Shure	BG3.1	£84	60Hz–14kHz, for live vocals	Spr 97
Shure	*BG6.1*	*£115*	*80Hz–15kHz, for live drums and percussion, amps, brass, woodwind*	*Spr 97*
Shure	Prologue 10H-LC	£37	Cardioid, 80Hz–10kHz, for live or studio instruments	
Shure	*Prologue 10L-LC*	*£29*	*Low impedance version of 10H-LC*	
Shure	Prologue 12H-LC	£49	Cardioid, 80Hz–10kHz, for vocals	
Shure	*Prologue 12L-LC*	*£45*	*Low impedance version of 12H-LC*	
Shure	Prologue 14H-LC	£58	Cardioid, 40Hz–13kHz, for vocals	
Shure	*Prologue 14L-LC*	*£53*	*Low impedance version of 14H-LC*	
Shure	Prologue 22L-LC	£54	Supercardioid, 40Hz–13kHz, for live vocals	
Shure	*Prologue 24L-LC*	*£67*	*Supercardioid, 40Hz–13kHz, for live vocals*	
Shure	SM7	£464	Cardioid, 40Hz–16kHz, switchable response, for voice-overs	
Shure	*SM10A-CN*	*£181*	*Cardioid, 50Hz–15kHz, for live vocals, head-worn*	
Shure	SM12A-CN	£253	As SM10A-CN, but with 1 in-ear monitor	
Shure	*SM48-LC*	*£76*	*Cardioid, 55Hz–15kHz, for live vocals*	
Shure	SM48S-LS	£88	As SM48-LC, but with on/off switch	
Shure	*SM57-LC*	*£112*	*Cardioid, 40Hz–15kHz, for live drums and percussion, amps*	
Shure	SM58-LC	£121	Cardioid, 50Hz–15kHz, for live vocals	Sep 96
Shure	*SM58S*	*£141*	*As SM58-LC, but with on/off switch*	*Sep 96*
Studiomaster	KM51	£53	For vocals and instruments	
Studiomaster	*KM81*	*£70*	*For vocals and instruments*	*Sep 96*

STEREO

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
AKG	C 426 B comb	£3524	Condenser, 2 large twin diaphragm, variable pattern, 20Hz–20kHz, phantom powered	
AKG	*C 522*	*£1174*	*Condenser, 2 cardioids, 80Hz–20kHz, battery or phantom powered*	
Beyerdynamic	MC 742	£2995	Condenser, 2 twin diaphragm, variable pattern, 20Hz–20kHz, phantom powered	
Shure	*VP88*	*£999*	*Condenser, 1 cardioid, 1 bidirectional, 40Hz–20kHz, battery or phantom powered*	

MIXERS

FORMAT: Stereo mixers reduce all the input signals to a stereo pair, while 4 and 8-buss models allow you to output signals directly from their busses, as well as the main stereo outputs. Live mixers range from stereo to 8-buss, and these are designed specifically for the demands of live performance. This category includes powered mixers, which combine a mixer and a power amp in one unit.

EQ: On a budget stereo mixer, you may expect only a simple 2-band EQ, but on a good 8-buss mixer, you'll find quite a sophisticated 4-band EQ section. This will include a fixed high and low bands, and two sweepable (semi-parametric) mid-range bands, where you can alter the centre of frequency cut/boost. Full parametric EQs have controls for frequency, cut/boost, and bandwidth (Q).

AUXS: Auxiliaries can be used to send signals to either external effects processors or to headphones/speakers for monitoring. Aux sends may be switchable, meaning that two processors may be connected, but only one can be used at once.

STEREO

MANUFACTURER	MODEL	PRICE	FORMAT	DESCRIPTION	REVIEW
3G	Mynah 8:2	£411	8:2	3-band EQ, 2 aux	Oct 95
3G	*Mynah 12:2*	*£581*	*12:2*	*3-band EQ, 2 aux*	*Oct 95*
3G	Mynah 16:2	£699	16:2	3-band EQ, 2 aux	Oct 95
3G	*Mynah Si*	*£586*	*10:2:1*	*3-band EQ, 2 aux, stereo inputs, stereo pre-amp*	*Oct 95*
3G	Mynah SiRM	£582	12:2:1	Rackmount version of Mynah Si	Oct 95
Allen & Heath	*WZ16:2*	*£917*	*16:2*	*4-band EQ, 2 sweeps, 6 aux, 2 stereo returns*	
ARX	MaxiMix	£439	Dual 4:2	1U rackmount line mixer	
ARX	*MIXX*	*£517*	*4:2*	*3-band EQ, 1U rackmount line mixer*	
ARX	MIXXMaster	£466	4:2	3-band EQ, 2 mic, 2 stereo line inputs, 1U rackmount	
Audio Toys	*8MX2*	*£1757*	*8:2*	*Balanced XLRs, 8 limiters, phase reversal, 2-track return*	*Jun 97*
Behringer	MX 802	£169	8:2	3-band EQ, 2 sends, 2 stereo returns, phantom power	Aug 97
Behringer	*MX 1602*	*£229*	*16:2*	*3-band EQ, 2 sends, 2 stereo returns, phantom power*	*Nov 96*
Behringer	MX 2802	£649	28:2	3-band EQ, 8 monos have mid sweep, 6 aux, rackable	
Boss	*BX-4*	*£128*	*4:2*	*Basic 4 in, 2 out specification*	
Boss	BX-80	£364	8:2	2-band EQ, 1 send	
Fostex	*2016*	*£406*	*16:2*	*Rackmountable, also configurable as 8:8:2*	
Fostex	MN06	£99	6:2	Simple mini-mixer	
Mackie	*LM-3204*	*£899*	*32:2*	*Rackmount sub-mixer, 16 stereo ins, 3-band EQ, 1 sweep, 2 sends, 4 returns*	*Apr 95*
Mackie	MS1202-VLZ	£399	12:2	4 mic pre-amps, 3-band EQ, 2 sends, with very low impedance circuitry	Nov 96
Mackie	*MS1402-VLZ*	*£549*	*14:2*	*Mic pre-amps, 3-band EQ, 2 sends, with very low impedance circuitry*	*Nov 96*
Midiman	Micromixer 18	£199	18:2	Half-rack, single-height mixer with gain, pan, aux sends	
Midiman	*Minimixer*	*£69*	*8:1*	*Digital-quality line mixer; can be configured as 4:2*	*Nov 95*
Midiman	Multimixer 6	£79	6:2.	Line mixer with volume, pan and headphone jack	
Peavey	*Unity 1000/12*	*£459*	*12:2*	*channel version of Unity 1000*	
Peavey	Unity 1000/8	£339	8:2	3-band EQ, 2 sends	
Peavey	*Unity 1000/8RM*	*£339*	*8:2*	*Rackmount version of 1000/8*	
Peavey	Unity 2000/12	£539	12:2	3-band EQ, 4 sends	
Peavey	*Unity 2000/16*	*£699*	*16:2*	*16-channel version of Unity 2000*	
Peavey	Unity 2000/SM	£639	12:2	3-band EQ, 4 sends	
Phonic	*MM122*	*£234*	*12:2*	*4 mic/line mono, 4 stereo, 2-band EQ, 2 sends, phantom power*	*Spr 97*
Phonic	PMC802B	£351	8:2	Mic pre-amps, 3-band EQ, 3 sends, 2 returns, phantom power	
Phonic	*PMC1202B*	*£469*	*12:2*	*Mic pre-amps, 3-band EQ, 3 sends, 2 returns, phantom power*	
Phonic	PMC1602B	£586	16:2	Mic pre-amps, 3-band EQ, 3 sends, 2 returns, phantom power	
Phonic	*PMC2402B*	*£799*	*24:2*	*Mic pre-amps, 3-band EQ, 3 sends, 2 returns, phantom power*	
Roland	M-160	£899	16:2	4U rackmount mixer, no EQ, 3 sends	
Samson	*Mixpad 9*	*£199*	*9:2*	*2-band EQ, 2 sends*	
Samson	Mixpad 12	£275	12:2	2-band EQ, 2 sends	
Samson	*MPL1502*	*£299*	*15:2*	*Rackmount mixer, 2-band EQ, 2 sends*	
Samson	MPL1640	£599	16:2	Rackmount mixer, 3-band EQ, 4 sends	
Samson	*PL1602*	*£269*	*16:2*	*Rackmount line mixer, 1 send*	
Samson	PL2404	£549	24:2	Rackmount line mixer, 1 send	
Soundtracs	*Topaz Macro*	*£469*	*14:2*	*10 mic pre-amps, 3-band EQ, 2 sends, 2 stereo returns*	*Nov 96*
Soundtracs	Topaz Mini	£350	12:2	Compact mixer, 4 mono, 4 stereo, 3-band EQ, 2 sends	Nov 96
Spirit By Soundcraft	*Folio F1*	*£299*	*14:2*	*6 mic pre-amps, 3-band EQ, 1 sweep, 3 sends, 3 returns, phantom power*	*Jan 97*
Spirit By Soundcraft	Folio F1	£349	16:2	8 mic pre-amps, 3-band EQ, 1 sweep, 3 sends, 3 returns, phantom power	Jan 97
Spirit By Soundcraft	*Folio Notepad*	*£149*	*8:2*	*4 mic pre-amps, 2-band EQ, 1 send, 1 stereo return, phantom power*	*Nov 96*
Studiomaster	Club2000 102	£276	10:2	3-band EQ, 2 sends, 1 stereo return, phantom power	
Studiomaster	*Club2000 142*	*£323*	*14:2*	*3-band EQ, 2 sends, 1 stereo return, phantom power*	
Studiomaster	Club2000 182	£410	18:2	3-band EQ, 2 sends, 1 stereo return, phantom power	
Studiomaster	*Club DSP*	*£398*	*10:2*	*3-band EQ, 1 sweep, 2 sends, 1 stereo return, phantom power, digital effects*	
Studiomaster	Diamond Compact	£70	4:2	Battery powered mini mixer with jacks/phonos	
Studiomaster	*Diamond Compact*	*£82*	*4:2*	*Battery powered mini mixer with XLRs/phonos*	
Studiomaster	Pro2 163	£586	16:3	3-band EQ, 1 sweep, 5 sends, 4 stereo returns, phantom power, rackmountable	
Studiomaster	*Pro2 203*	*£704*	*20:3*	*3-band EQ, 1 sweep, 5 sends, 4 stereo returns, phantom power*	
Studiomaster	Rotary Club 12	£229	12:2	3-band EQ, 2 sends, 1 stereo return, phantom power, rackmountable	
Tascam	*M-08*	*£299*	*12:2*	*Mic pre-amps, 2-band EQ, 2 sends, 2 stereo returns, phantom power*	*Nov 96*
Tascam	M1016	£999	16:2	3-band EQ, 1 sweep, 6 sends, 4 stereo, 2 mono returns	
Tascam	*MkII*	*£349*	*8:2*	*Line level rackmount mixer*	
TL Audio	M1	£3819	8:2	Hand-built valve mixer, 4-band EQ, no aux	
TL Audio	*M2*	*£4994*	*8:2*	*As M1 mixer, but with faders and direct outs*	
Vestax	RMC-88	£395	8:2	Rackmount, 3-band EQ, 3 sends	
Yamaha	*MM1242*	*£749*	*12:2*	*Rackmount mixer, 4 sends*	
Yamaha	MM1402	£429	14:2	Mic pre-amps, 3-band EQ, 2 sends, 2 stereo returns, 5-band graphic EQ	Nov 96

MANUFACTURER	MODEL	PRICE	FORMAT	DESCRIPTION	REVIEW
Yamaha	*MV802*	*£489*	*8:2*	*Rackmount mixer, 2 sends*	
Yamaha	Programmable Mixer 01	£1599	18:2	20-bit AD/DA, 2 effects, 3 dynamics processors, parametric EQ, MIDI automation	Jul 94

4-BUSS

MANUFACTURER	MODEL	PRICE	FORMAT	DESCRIPTION	REVIEW
3G	Mynah 16:4:3	£999	16:4:2	4-buss version of Mynah 16:2 with built-in noise gate	Oct 95
3G	*Signet*	*£2467*	*16:4:2:1*	*4-band EQ, 2 sweeps, 8 sends*	
3G	Signet	£3484	24:4:2:1	4-band EQ, 2 sweeps, 8 sends	
Allen & Heath	*WZ14:4:2*	*£960*	*14:4:2*	*4-band EQ, 2 sweeps, 6 sends, direct outs, f-o-h and monitor modes*	*Dec 96*
Behringer	MX 2642	£749	26:4:2	3-band EQ, 8 monos have mid sweep, 6 aux, rackable	Dec 96
Mackie	*24-4*	*£1495*	*24:4:2*	*3-band EQ, 2 sweeps, 6 sends*	
Mackie	32-4	£1795	32:4:2	32-channel version of 24:4	
Mackie	*CR1604-VLZ*	*£949*	*16:4:2*	*3-band EQ, 1 sweep, 6 sends, 4 stereo returns, phantom power*	*Dec 96*
Phonic	M1642	£1598	16:4:2	Mic pre-amps, 3-band EQ, 1 sweep, 6 sends, 2 stereo returns, phantom power	
Phonic	*M2442*	*£1939*	*24:4:2*	*Mic pre-amps, 3-band EQ, 1 sweep, 6 sends, 2 stereo returns, phantom power*	
Samson	MPL1204	£549	12:4:2	Rackmount mixer, 2-band EQ, 4 sends	
Samson	*MPL2242*	*£749*	*22:4:2*	*Rackmount mixer, 4-band EQ, 6 sends*	*Feb 95*
Soundtracs	Topaz 14-4	£450	14:4:2	10 mono, 2 stereo, 3-band EQ, 2 sends	
Soundtracs	*Topaz Maxi 24*	*£1938*	*24:4:2*	*4-band EQ, 2 sweeps, 8 sends, automation ready*	
Soundtracs	Topaz Maxi 32	£2291	32:4:2	4-band EQ, 2 sweeps, 8 sends, automation ready	
Spirit By Soundcraft	*Folio FX16*	*£846*	*16:4:2*	*16 mic pre-amps, 3-band EQ, 1 sweep, 4 aux, phantom power, prog Lexicon effects*	
Spirit By Soundcraft	Folio SX	£479	20:4:2	12 mic pre-amps, 3-band EQ, 1 sweep, 3 sends, phantom power	Dec 96
Studiomaster	*Pro2 163*	*£586*	*16:3*	*3-band EQ, 1 sweep, 5 sends, 4 stereo returns, phantom power, rackmountable*	
Studiomaster	Pro2 203	£704	20:3	3-band EQ, 1 sweep, 5 sends, 4 stereo returns, phantom power	
Studiomaster	*Trilogy 166*	*£704*	*16:4:2*	*3-band EQ, 1 sweep, 6 sends, 4 stereo returns, also can function as live desk*	
Studiomaster	Trilogy 206	£880	20:4:2	3-band EQ, 1 sweep, 6 sends, 4 stereo returns, also can function as live desk	Mar 97
Studiomaster	*Trilogy 326*	*£1199*	*32:4:2*	*3-band EQ, 1 sweep, 6 sends, 4 stereo returns, also can function as live desk*	
Studiomaster	Trilogy 140EX	£586		10 mono mic, 2 stereo line, rackmountable expander	
Yamaha	*03D*	*£2999*	*16:4:2*	*4-band parametric EQ, 2 effects, 40 dynamics processors, expandable to 26:8:2*	*Spr 97*
Yamaha	MX12/4	£399	12:4	3-band EQ, 2 sends, 2 returns, stereo digital reverb, 7-band graphic EQ	Sep 97

8-BUSS

MANUFACTURER	MODEL	PRICE	FORMAT	DESCRIPTION	REVIEW
3G	Signet	£1052	24:8:2:1	8-buss version of 4-buss Signet	
3G	*Signet*	*£960*	-	*8-channel expander for Signet 8-buss range*	
3G	ilk 16:8:16:2	£2402	16:8:16:2	4-band EQ, 2 sweeps, 4 sends	
3G	*Silk 24:8:16:2*	*£2908*	*24:8:16:2*	*4-band EQ, 2 sweeps, 4 sends*	
Allen & Heath	WZ20:8:2	£960	20:8:2	4-band EQ, 2 sweeps, 6 sends, desk/rack mountable, 28 inputs on mixdown	
Behringer	*MX8000*	*£2299*	*24:8:24:2*	*4-band EQ, 2 sweeps, 6 sends, dual input desk*	*Jan 97*
Fostex	2016	£406	8:8:2	Rackmountable, also configurable as 16:2	
Fostex	*812*	*£1209*	*12:8*	*3-band EQ, 2 sweeps, 4 aux, optional MIDI muting*	
Korg	SoundLink	£2495	24:8:2	3-band parametric EQ, 2 sends, effects	Dec 96
Mackie	*8•bus*	*£2875*	*16:8*	*4-band EQ, 1 sweep, 6 sends, 6 stereo returns*	*Jan 97*
Mackie	8•bus	£3590	24:8	4-band EQ, 1 sweep, 6 sends, 6 stereo returns	Jan 97
Mackie	*8•bus*	*£4395*	*32:8*	*4-band EQ, 1 sweep, 6 sends, 6 stereo returns*	*Jan 97*
Soundcraft	Ghost	£3956	24:8:2	4-band EQ, 2 parametric mids, 8 sends, 4 stereo returns	Jan 97
Soundcraft	*Ghost*	*£4700*	*24:8:2*	*4-band EQ, 2 parametric mids, 8 sends, 4 stereo returns, various MIDI controls*	*Jan 97*
Soundcraft	Ghost	£4806	32:8:2	4-band EQ, 2 parametric mids, 8 sends, 4 stereo returns	Jan 97
Soundcraft	*Ghost*	*£5558*	*32:8:2*	*4-band EQ, 2 parametric mids, 8 sends, 4 stereo returns, various MIDI controls*	*Jan 97*
Soundtracs	Topaz	£3289	24:8:2	Dual EQ (1x4-band 2-sweep or 2x2-band), 6 sends, 4 stereo returns	
Soundtracs	*Topaz Project 24-8*	*£2937*	*24:8:2*	*4-band EQ, 2 sweeps, 6 sends*	*Jan 97*
Soundtracs	Topaz Project 32-8	£3877	32:8:2	4-band EQ, 2 sweeps, 6 sends	
Soundtracs	*Virtual*	*£21737*	*48:8:2*	*4-band parametric EQ, 8 sends, 8 stereo returns, compressor/gate*	*Spr 97*
Spirit By Soundcraft	328	£3000 tbc	32:8:2	Digital desk – more details when confirmed	Apr 98
Spirit By Soundcraft	*Spirit 8*	*£3162*	*16:8:2*	*4-band EQ, 2 sweeps, 6 sends, 6 stereo returns, also can function as live desk*	
Spirit By Soundcraft	Spirit 8	£4279	24:8:2	*4-band EQ, 2 sweeps, 6 sends, 6 stereo returns, also can function as live desk*	
Spirit By Soundcraft	*Spirit 8*	*£5395*	*32:8:2*	*4-band EQ, 2 sweeps, 6 sends, 6 stereo returns, also can function as live desk*	
Spirit By Soundcraft	Spirit 8	£6511	40:8:2	*4-band EQ, 2 sweeps, 6 sends, 6 stereo returns, also can function as live desk*	
Spirit By Soundcraft	*Studio*	*£1568*	*16:8:2*	*4-band EQ, 2 sweeps, 6 sends, 4 stereo returns*	*Jan 97*
Spirit By Soundcraft	Studio	£2123	24:8:2	4-band EQ, 2 sweeps, 6 sends, 4 stereo returns	Jan 97
Spirit By Soundcraft	*Studio*	*£2839*	*32:8:2*	*4-band EQ, 2 sweeps, 6 sends, 4 stereo returns*	*Jan 97*
Studiomaster	Mixdown Classic 8	£1526	16:8:16:2	3-band EQ, 2 sweeps, 6 sends, 1 stereo return, MIDI muting, phantom power	
Studiomaster	*Mixdown Classic 8*	*£1644*	*24:8:16:2*	*3-band EQ, 2 sweeps, 6 sends, 1 stereo return,* MIDI muting, phantom power	
Studiomaster	Mixdown Classic 8	£1879	32:8:16:2	3-band EQ, 2 sweeps, 6 sends, 1 stereo return, MIDI muting, phantom power	
Tascam	*M-1600*	*£1399*	*16:8:2*	*3-band EQ, 1 sweep, 6 sends, 4 stereo returns, Tascam DA series interfacing*	*Apr 97*
Tascam	M-1600	£1699	24:8:2	3-band EQ, 1 sweep, 6 sends, 4 stereo returns, Tascam DA series interfacing	Apr 97
Tascam	*M2616*	*£2499*	*16:8:2*	*4-band EQ, 2 sweeps, 8 sends, 6 returns*	
Tascam	M2624	£3299	24:8:2	4-band EQ, 2 sweeps, 8 sends, 6 returns	
Yamaha	*02R*	*£7049*	*24:8:2*	*4-band parametric EQ, 2 effects, 50 dynamics processors, expandable to 44:8:2*	
Yamaha	RM800	£1499	16:8:2	3-band EQ, 1 sweep, 4 sends	
Yamaha	*RM800*	*£1899*	*24:8:2*	*3-band EQ, 1 sweep, 4 sends*	

UPDATES

Manufacturers and distributors should send updates or corrections to the following address:
The Mix Buyer's Guide, Future Publishing, 30 Monmouth St, Bath BA1 2BW

MONITORING

HEADPHONES: Closed headphones are suitable for miked recording, since the sound source is enclosed. Open phones are good for general monitoring purposes.
POWER RATINGS: Where possible, all amp ratings are quoted. Where not indicated, assume an 8Ω load.
MONITORS: All monitors are priced per pair for easy comparison. Nearfield monitors should be located close to the listener (within one or two metres). They are designed to give you an accurate representation of the sound, without being coloured by the room's acoustics. Full-range monitors can reproduce more extreme frequencies without distortion. Active monitors feature internal amplification, often one amp per driver. This means that amp and speaker are usually better matched.

HEADPHONES

MANUFACTURER	MODEL	PRICE	DESIGN	DESCRIPTION	REVIEW
Audio-Technica	ATH-M40fs	£120	Closed	Extended low-frequency response to 5Hz for professional monitoring/mixing	
Aural Envelope	*DX220*	*£30*	*Closed*	*Beyer DT 100 'copies'*	
Beyerdynamic	DT 48	£269	Closed	16Hz–20kHz, available with 8, 25, 200 Ohm impedance	
Beyerdynamic	*DT 100*	*£152*	*Closed*	*30Hz–20kHz, available with 8, 400, 2000 Ohm impedance*	
Beyerdynamic	DT 150	£175	Closed	5Hz–30kHz, 250 Ohm impedance	
Beyerdynamic	*DT 220*	*£116*	*Closed*	*20Hz–20kHz, available with 20, 400 Ohm impedance*	
Beyerdynamic	DT 250	£116	Closed	10Hz–30kHz, 80 Ohm impedance	
Beyerdynamic	*DT 250*	*£140*	*Closed*	*As above, but with 250 Ohm impedance*	
Beyerdynamic	DT 770 Pro	£152	Closed	5Hz–35kHz, 600 Ohm impedance	
Beyerdynamic	*DT 990 Pro*	*£187*	*Open*	*5Hz–35kHz, 600 Ohm impedance*	
JHS	LH036	£50	Closed	Studio reference headphones	Jan 97
JHS	*LH115*	*£15*	*Closed*	*Monitor headphones*	*Jan 97*
JHS	LH135	£30	Closed	Monitor headphones	Jan 97
Sennheiser	*HD 25*	*£160*	*Closed*	*Lightweight monitoring headphones with split headband, 70 Ohm impedance*	
Sennheiser	HD 25-13	£160	Closed	As HD 25, but with 600 Ohm impedance	
Sennheiser	*HD 25SP*	*£85*	*Closed*	*As HD 25, but with single headband*	
Sennheiser	HD 250 II	£140	Closed	Monitoring headphones with enhanced bass response, 300 Ohm impedance	
Sennheiser	*HD 265*	*£125*	*Closed*	*Monitoring headphones, 150 Ohm impedance*	
Sennheiser	HD 445	£55	Open	Headphones, 60 Ohm impedance	
Sennheiser	*HD 580*	*£200*	*Open*	*Monitoring headphones, 300 Ohm impedance*	
Sennheiser	HD 600	£250	Open	Monitoring headphones, 300 Ohm impedance	
Yamaha	*RH-5M*	*£47*	*Closed*	*Dynamic-type professional headphones*	
Yamaha	RH-10M	£85	Semi-open	Dynamic-type professional headphones	
Yamaha	*RH-40M*	*£116*	*Closed*	*Professional monitor headphones*	

POWER AMPS

MANUFACTURER	MODEL	PRICE	POWER	DESCRIPTION	REVIEW
ATC	SPA2-150	£2500		Power amplifier	
C Audio	*GB202*	*£439*	*200W*	*3U, 2–4 Ohm operation possible, limiter, LF roll-off filter*	
C Audio	GB402	£549	400W	3U, 2–4 Ohm operation possible, limiter, LF roll-off filter	
C Audio	*GB602*	*£599*	*600W*	*3U, 2–4 Ohm operation possible, limiter, LF roll-off filter*	
MTR	SPA-200	£355	200W	1U, all aluminium chassis, no fan	
MTR	*SPA-400b*	*£450*	*400W*	*1U, balanced, soft start, Speakons*	
Phonic	MAR2	£405	150W	2U, also 2x230W 4 Ohm, 2x300W 2 Ohm, 1x540W 4 Ohm	
Phonic	*MAR4*	*£523*	*270W*	*2U, also 2x425W 4 Ohm, 2x550W 2 Ohm, 1x1100W 4 Ohm, switchable limiting*	
Phonic	MAR6	£693	400W	3U, also 2x650W 4 Ohm, 2x1000W 2 Ohm, 1x2000W 4 Ohm, switchable limiting	
QSC	*CX4*	*£664*	*150W*	*2U, also 2x225W 4 Ohm, 2x350W 2 Ohm, 2-speed fan*	
QSC	CX4T	£840	150W	2U, also 2x225W 4 Ohm, 2x350W 2 Ohm, 2-speed fan, direct and distributed outputs	
QSC	*CX6*	*£917*	*200W*	*3U, also 2x300W 4 Ohm, 2x450W 2 Ohm, 2-speed fan*	
QSC	CX6T	£1052	200W	3U, also 2x300W 4 Ohm, 2x450W 2 Ohm, 2-speed fan, direct and distributed outputs	
QSC	*CX12*	*£1293*	*400W*	*3U, also 2x600W 4 Ohm, 2x900W 2 Ohm, 2-speed fan*	
QSC	CX12T	£1492	400W	3U, also 2x600W 4 Ohm, 2x900W 2 Ohm, 2-speed fan, direct and distributed outputs	
QSC	*EX800*	*£999*	*175W*	*2U, also 2x275W 4 Ohm, 2x400W 2 Ohm, limiter*	
QSC	EX1250	£1234	275W	2U, also 2x400W 4 Ohm, 2x600W 2 Ohm, limiter	
QSC	*EX1600*	*£1469*	*400W*	*2U, also 2x600W 4 Ohm, 2x800W 2 Ohm, limiter*	
QSC	EX2500	£1951	500W	3U, also 2x750W 4 Ohm, 2x1000W 2 Ohm, limiter	
QSC	*X4000*	*£2291*	*800W*	*3U, also 2x1200W 4 Ohm, 2x1600W 2 Ohm, limiter*	
QSC	MX700	£576	170W	2U, also 2x270W 4 Ohm, 2x350W 2 Ohm, 2-speed fan	
QSC	*MX1000a*	*£981*	*275W*	*2U, also 2x400W 4 Ohm, 2x500W 2 Ohm, 2-speed fan*	
QSC	MX1500a	£1046	400W	2U, also 2x600W 4 Ohm, 2x750W 2 Ohm, 2-speed fan	
QSC	*MX2000a*	*£1387*	*475W*	*3U, also 2x725W 4 Ohm, 2x1000W 2 Ohm, 2-speed fan*	
QSC	MX3000a	£1974	825W	3U, also 2x1250W 4 Ohm, 2x1600W 2 Ohm, 2-speed fan	Dec 94
QSC	*PowerLight 1.0*	*£1351*	*200W*	*2U, also 2x325W 4 Ohm, 2x500W 2 Ohm, limiter, variable speed fan*	
QSC	PowerLight 1.4	£1610	300W	2U, also 2x500W 4 Ohm, 2x700W 2 Ohm, limiter, variable speed fan	
QSC	*PowerLight 1.8*	*£1874*	*400W*	*2U, also 2x650W 4 Ohm, 2x900W 2 Ohm, limiter, 2 variable speed fans*	
QSC	PowerLight 2.0HV	£1992	650W	2U, also 2x400W 16 Ohm, 2x1000W 4 Ohm, limiter, 2 variable speed fans	
QSC	*PowerLight 3.4*	*£2773*	*725W*	*3U, also 2x1150W 4 Ohm, 2x1700W 2 Ohm, limiter, variable speed fan*	
QSC	PowerLight 4.0	£3102	900W	3U, also 2x1400W 4 Ohm, 2x2000W 2 Ohm, limiter, variable speed fan	
QSC	*USA400*	*£582*	*125W*	*3U, also 2x200W 4 Ohm, 2x250W 2 Ohm, limiter, high-pass filter*	
QSC	USA900	£687	270W	3U, also 2x450W 4 Ohm, 2x500W 2 Ohm, limiter, high-pass filter	
QSC	*USA1310*	*£1052*	*400W*	*4U, also 2x655W 4 Ohm, 2x1000W 2 Ohm, limiter, high-pass filter*	
SoundTech	PS802	£449	400W	1U, also 1x800W	
Studiomaster	*700D*	*£528*	*350W*	*2U, 4 Ohm, bridge and mono modes*	*Aug 96*
Studiomaster	1200D	£680	600W	2U, 4 Ohm, bridge and mono modes	
Studiomaster	*1600D*	*£939*	*800W*	*2U, 4 Ohm, bridge and mono modes*	
Yamaha	A100A	£289	50W	2U-high but half a 19-inch rack wide, VU meters	
Yamaha	*H3000*	*£1599*	*350W*	*2U, also 2x450W 4 Ohm, 1x900W 4 Ohm*	
Yamaha	H5000	£2049	550W	2U, also 2x700W 4 Ohm, 1x1400W 4 Ohm	
Yamaha	*H7000*	*£2479*	*750W*	*2U, also 2x1000W 4 Ohm, 1x2000W 4 Ohm*	
Yamaha	P1500	£499	170W	3U, also 2x240W 4 Ohm, 1x420W 4 Ohm	

MANUFACTURER	MODEL	PRICE	POWER	DESCRIPTION	REVIEW
Yamaha	P2500	£599	285W	3U, also 2x430W 4 Ohm, 1x700W 4 Ohm	
Yamaha	*P3500*	*£699*	*395W*	*3U, also 2x620W 4 Ohm, 1x1000W 4 Ohm*	

NEARFIELD MONITORS

MANUFACTURER	MODEL	PRICE	POWER	DESCRIPTION	REVIEW
Alesis	Monitor One	£329	120W	2 way	Feb 97
Alesis	*Point Seven*	*£249*	*75W*	*2 way*	*Feb 97*
ATC	SCM10	£1000		Studio control monitors	
ATC	*SCM10 PRO*	*£929*		*Studio control monitors*	
ATC	SCM20 PRO	£1468		Studio control monitors	
ATC	*SCM20 SL*	*£1600*		*Studio control monitors*	
ATC	SCM20 SL TOWER	£2100		Studio control monitors	
ATC	*SCM20A PRO*	*£3049*		*Studio control monitors*	
ATC	SCM50 SL	£3751		Studio control monitors	
ATC	*SCM50A PRO*	*£5586*		*Studio control monitors*	
ATC	SCM50A SL	£5251		Studio control monitors	
Audix	*Nile V*	*£1287*	*250W*	*40Hz–20kHz, 2 way, 7-inch woofer, 1-inch tweeter*	
Audix	Studio 1A	£569	250W	50Hz–18kHz, 2 way, 6.5-inch woofer, 1-inch tweeter	
Audix	*Studio 3A*	*£849*	*350W*	*47Hz–19kHz, 2 way, dual 6.5-inch woofers, 1-inch tweeter*	
Dynaudio	BM5	£399	100W	2 way, 6-inch bass/mid driver	
Dynaudio	*BM6P*	*£646*	*100W*	*2 way*	
Dynaudio	BM15	£799	250W	2 way, 10-inch bass/mid driver	
Dynaudio	*M1*	*£1810*	*300W*	*2 way, console mounted, 1000W peak handling*	
Electro-Voice	S40	£311	160W	2 way	
Electro-Voice	*S60*	*£576*	*100W*	*2 way*	
Electro-Voice	S80	£905	80W	2 way	
Epos	*ES12*	*£500*	*100W*	*2 way*	*Feb 97*
Event	20/20	£399	200W	50Hz–20kHz, 2 way, 8-inch woofer, 1-inch tweeter	Jan 97
FAR	*CR10*	*£499*	*110W*	*45Hz–23kHz, 2 way, 5-inch woofer, 1-inch tweeter*	*Jul 96*
Genelec	1029AM	£645			
Genelec	*1030A*	*£1124*			
Genelec	1031A	£1956			
Genelec	*1032A*	*£2472*			
Genelec	S30C	£2890		Vertical and horizontal versions available	
Genelec	*1091C*	*£445*		*Subwoofer system for 1029A*	
Genelec	1092A	£1102		Subwoofer system	
Genelec	*1094A*	*£1850*		*Subwoofer system*	
JBL	4206	£357	300W	2 way, 6.5-inch woofer	
JBL	*4208*	*£504*	*300W*	*2 way, 8-inch woofer*	*Feb 97*
JBL	Control 1	£198	150W	2 way	
JBL	*Control 1+*	*£398*	*150W*	*As Control 1, but with enhanced performance*	Feb 97
JBL	Control 5	£515	175W	Compact monitor	
JBL	*Control 5+*	*£574*	*175W*	*As Control 5, but with enhanced performance*	
JBL	Control SB1	£269	150W	Sub-woofer for Control 1	
JBL	*Control SB5*	*£339*	*175W*	*Sub-woofer for Control 5*	
KRK	K-Rok	£352	100W	2 way	
KRK	*K-RokS*	*£463*	*100W*	*As K-Rok, but magnetically shielded*	
KRK	*RoKits*	*£269*	*75W*	*2-way, 6-inch woofer, 1-inch tweeter, magnetically shielded*	
Peavey	PRM308Si	£638	80W	3 way, time-corrected	
Phonic	*SE206*	*£88*	*50W*	*70Hz–16kHz, 2 way, 5.25-inch woofer, 1-inch tweeter*	
Phonic	SE207	£116	100W	70Hz–20kHz, 2 way, 6.5-inch woofer, 1-inch tweeter	
PMC	*TB1S*	*£430*	*150W*	*2 way, magnetically shielded*	*Feb 97*
PMC	XB1	£587	150W	Bass extender for TB1 monitors	
Richard Allen	*RA8M*	*£229*	*100W*	*BBC-spec nearfield monitors*	*Sep 94*
Spirit By Soundcraft	Absolute 2	£272	100W	45Hz–20kHz, 2 way, 6.5-inch woofer, 1-inch tweeter, magnetically shielded	Feb 97
Spirit By Soundcraft	*Absolute Zero*	*£206*	*95W*	*55Hz–18kHz, 2 way,* 6.5-inch woofer, 1-inch tweeter	
Tannoy	System 6 NFMII	£494	175W	6.5-inch dual-concentric driven monitor speakers	
Tannoy	*System 600*	*£467*	*130W*	*2 way*	
Tannoy	System 8 NFMII	£752	200W	2 way, 8-inch dual-concentric	
Tannoy	*PBM 5II*	*£294*	*75W*	*2 way*	*Jul 95*
Tannoy	PBM 6.5	£306	100W	Dual-driver monitor speakers	Aug 94
Tannoy	*PBM 8II*	*£529*	*80W*	*Mid-level, dual-driver monitor speakers*	*Feb 97*
Tannoy	System 6 NFMII	£494	175W	6.5-inch dual-concentric driven monitor speakers	
Tannoy	*System 600*	*£467*	*130W*	*2 way*	
Tannoy	System 8 NFMII	£752	200W	2 way, 8-inch dual-concentric driver	
Tannoy	*System 800*	*£646*	*150W*	*2 way*	
Westlake Audio	Lc 6.75	£995	80W	<60Hz–18kHz, 2 way	Dec 96
Xpression!	*DPM1*	*£379*	*175W*	*48hz–20kHz, 2 way, 1-inch tweeter, 8-inch woofer, magnetically shielded*	*Jun 97*
Xpression!	MS1	£349	175W	Sub-woofer for DPM1	Jun 97
Yamaha	*NS10M-STUD*	*£375*	*150W*	*2 way, 20Hz–20kHz, classic studio nearfield monitors*	*Feb 97*
Yamaha	S15	£218	150W	Trapezoidal bass-reflex speaker, 65Hz–40kHz, 5-inch woofer, 1-inch tweeter	
Yamaha	*S55*	*£195*	*150W*	*Trapezoidal bass-reflex speaker, 60Hz–40kHz, 6.5-inch woofer, 1-inch tweeter*	
Yamaha	YS12ME	£165	125W	2 way, 12-inch bass, HF driver and horn	
Yamaha	*YS212E*	*£159*	*125W*	*2 way, 12-inch bass, HF driver and horn*	
Yamaha	YS215E	£189	125W	2 way, 15-inch bass, HF driver and horn	
Yamaha	*YS312E*	*£249*	*125W*	*3 way, 12-inch bass, 6.5-inch mid, HF bullet*	
Yamaha	YS315E	£249	125W	3 way, 15-inch bass, 6.5-inch mid, bullet tweeter	
Yamaha	*YSSW12E*	*£249*	*125W*	*2x12-inch sub woofer, internal low-pass filter*	
Yamaha	YSSW15E	£249	125W	2x15-inch sub woofer, UK made	

MID- & FULL-RANGE MONITORS

MANUFACTURER	MODEL	PRICE	POWER	DESCRIPTION	REVIEW
Alesis	Monitor Two	£799	150W	Large studio monitors for full-range work	

MANUFACTURER	MODEL	PRICE	POWER	DESCRIPTION	REVIEW
Genelec	*1033A*	*£16212*			
Genelec	1034A	£24200			
Genelec	*1035B*	*£38340*			
Genelec	1037B	£4714		3-way main monitors	
Genelec	*1038A*	*£6892*		*3-way main monitors*	
Genelec	1039A	£14186		3-way main monitors	
JBL	*Control 8SR*	*£586*	*200W*	*3 way control monitor*	
JBL	Control 10	£1314	250W	3 way control monitor	
JBL	*Control 12*	*£1643*	*400W*	*3 way control monitor*	
PMC	AB1	£3936	300W	2 way studio monitors with bass reflex port	
PMC	*LB1*	*£1998*	*200W*	*2 way studio monitors with bass reflex port*	
Wilmslow	ATC K100	£1951	500W	High-end studio monitors in kit form	

ACTIVE MONITORS

MANUFACTURER	MODEL	PRICE	POWER	DESCRIPTION	REVIEW
Audix	PH3-s	£239	20W	100Hz–20kHz, 2 way, 3.5-inch woofer, 0.75-inch tweeter	
Audix	*PH5-vs*	*£289*	*25W*	*75Hz–20kHz, 2 way, 5.25-inch woofer, 0.75-inch tweeter*	
Audix	PH15-vs	£439	45W	50Hz–20kHz, 2 way, 5.25-inch woofer, 0.75-inch tweeter	
Audix	*PH25-vs*	*£569*	*50W*	*50Hz–20kHz, 2 way, dual 5.25-inch woofers, 0.75-inch tweeter*	
Dynaudio	BM6A	£1386	150W	2 way	Jul 97
Dynaudio	*BM15A*	*£1650*	*150W*	*2 way, 2 x 150W amplifiers (150W per driver)*	
Fostex	SPA11	£724	100W	Powered version of full-range SP11	
Fostex	*SPA12*	*£856*	*100W*	*Full-range speaker with 3-band EQ*	
Fostex	SPA303	£534	30W	High-frequency speakers	
Fostex	*SPA707*	*£1034*	*150W*	*Bass speaker*	
Genelec	1030A	£1320	150W	2 way	Jul 97
Goodmans	*Active 70*	*£35*	*5W*	*1 way, 3-inch full-range speaker unit*	
JBL	6208	£1056	125W	2 way, bi-amped	Sep 97
JBL	*EON 15PAK*	*£799*	*110W*	*2 way*	*May 9*
Phonic	Versatap 30	£88	30W	120Hz–20kHz, 2 way, 4-inch woofer, 1-inch tweeter	
Phonic	*Versatap 50*	*£174*	*50W*	*75Hz–20kHz, 2 way, 6.5-inch woofer, 1-inch tweeter*	
Quested	VS1112	£1598 each	400W	1 way, 300mm bass driver, sub-bass unit	Apr 98
Quested	*VS2108*	*£2304*	*210W*	*2 way, 200mm bass driver, 28mm tweeter, bi-amped*	*Apr 98*
Quested	VS2205	£1716	150W	75Hz–19kHz, 2 way, dual 120mm woofers, 28mm tweeters, bi-amped	Jul 97
Spendor	*QT100*	*£704*	*100W*	*2 way*	*Oct 97*
Spendor	SA200	£1404	125W	2 way	Jul 97
Spirit By Soundcraft	*Absolute 4P*	*£799*	*100W*	*40Hz–20kHz, 2 way, 170mm bass driver, 25mm tweeter, bi-amped*	*Jul 97*
Tannoy	AMS8	£2702	150W	Dual concentric, professional active monitoring system	Jul 97
Xpression!	*DPM1 Proactive*	*£849*	*75W*	*46hz–20kHz, 2 way, 2 x 75W amplifiers, 8-inch woofer, 1-inch tweeter*	*Mar 98*
Zobel	Active One	£1380	100W	2 way, dual woofers	Jul 97

Ye olde amp myths

"How many watts is it guv?" asked the bloke who knew nothing about monitors and amplifiers. Don't be that bloke. If you double the 'wattage' of a loudspeaker or power amplifier, the result is a 3dB increase in actual level... not much. Sensitivity, on the other hand, is a far more telling specification. A sensitivity rating of 90dB W-1, for example, means that a 1 watt input wil produce 90dB of sound level, one meter away from the speaker, which is a good indication of both loudness, and of speaker efficiency. Don't equate efficiency or power to sound quality though, it doesn't always follow. For an amplifier, sensitivity quotes the voltage level input required to produce the amp's maximum output.

Another misconception is that speaker wattage should be matched to amplifier wattage. Forget that rule. The only thing that will protect your monitors from damage is your ears, and protection circuitry in extreme cases. For example, a 50W amplifier driven into distortion will easily tear your 500W speakers apart, and 50W speakers may well suffer the odd excess without so much as a scratch. When buying monitors and speakers take the advice of the dealer, as they will know what pairings are not recommended, and most important of all, take the advice of your ears.

And the third most misunderstood amp/speaker thing? The difference between peak and RMS (root mean squared) power. Peak power refers to the momentary maximum power that can be produced or withstood, RMS, a far more useful figure, refers to long term power usage, a kind of average basically. • *Paul Mac*

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SIGNAL PROCESSORS

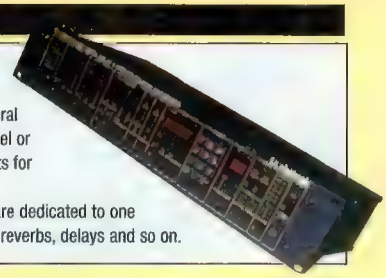
This section covers all aspects of signal processing. Entries have been categorised under their primary purpose. For instance, unless a limiter is specifically a limiter, it is likely to be listed under compressors. The same is true of expanders and noise gates.

ENHANCERS: This category includes 'exciters' and other trademarked psycho-acoustic enhancing brands.

EQs: Both graphic and parametric equalisers are covered in this category, as well as more specialist devices like feedback preventers, filters and vocoders.

MULTI-EFFECTS: This category is for effects processors that have more than one function i.e. they have reverb, delay or other effects algorithms in one unit. Some multi-effects processors allow several effects to be used at once, either in parallel or series, and may also offer discrete ins/outs for each effect.

DEDICATED EFFECTS: Effects units that are dedicated to one effect are found in their own section, e.g. reverbs, delays and so on.



COMPRESSORS

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Alesis	3630	£275	More than competent compressor/limiter/gate	
Alesis	*NanoCompressor*	*£149*	*Stereo compressor/limiter in tiny package*	*Jul 97*
Altec Lansing	1712A	£692	Single-channel compressor/limiter	
Aphex	*106 Easyrider*	*£399*	*Budget 4-channel automatic compressor*	*Sep 94*
Aphex	108 Easyrider	£239	2-channel automatic compressor	Sep 96
Aphex	*Compellor*	*£1817*	*Compressor/limiter/leveller*	
Aphex	Expressor	£640	Rackmount compressor	
ART	*Levelar*	*£155*	*Comressor/limiter*	*Feb 97*
ARX	Afterburner	£582	Split-frequency, enhanced compressor/limiter	
ARX	*DDP1*	*£658*	*Dual-channel gate/compressor/limiter*	
ARX	QuadComp	£670	4-channel compressor/limiter	
Behringer	*MDX1000*	*£199*	*Automatic compressor/limiter*	*Dec 94*
Behringer	MDX2100	£299	Automatic compressor/expander/limiter	
Behringer	*MDX2400*	*£299*	*Automatic quad compressor/limiter*	
Behringer	MDX4000	£499	Multi-band compressor/limiter/leveller	
Behringer	*MDX8000*	*£2199*	*Multi-band compressor/limiter/leveller*	
BSS	DPR 402	£934	Stereo dynamics processor	
BSS	*DPR 944*	*£582*	*2 compressors and 2 noise gates, all with independent inputs and outputs*	
DBX	160A	£504	Mono compressor/limiter	
DBX	*163X*	*£186*	*Mono compressor/limiter*	
DBX	165A	£426	Studio-quality mono compressor/limiter	
DBX	*166*	*£549*	*Dual compressor/limiter*	
DBX	168A	£1426	Studio dynamics processor	
DBX	*262*	*£233*	*Compressor/limiter/expander*	
DBX	266	£351	Dual compressor/gate	
DBX	*1066*	*£528*	*Compressor/limiter/gate*	
DBX	903	£323	Soft-knee compressor module	
DigiTech	*VCS-1*	*£799*	*Dual vacuum tube compressor/noise gate/de-esser/limiter*	*Nov 97*
Drawmer	1960	£1170	Valve compressor/limiter	
Drawmer	*DL241*	*£441*	*Auto compressor*	
Drawmer	DL241X	£500	Auto compressor with balanced XLRs	
Drawmer	*DL251*	*£560*	*Spectral compressor*	
Drawmer	DL441X	£500	Auto compressor/limiter with balanced XLRs	
Drawmer	*M500*	*£911*	*Digitally controlled dynamics processor*	
Drawmer	MX30	£229	Dual gate/compressor/limiter	Aug 97
Focusrite	*Green Four*	*£1056*	*Dual compressor/limiter*	*May 97*
Focusrite	Red3	£2579	Dual compressor/limiter	
Joemeek	*SC2*	*£tbc*	*Award-winning compressor with VU meter*	
Joemeek	VC2	£tbc	'Tube' channel compressor	
Joemeek	*VC6*	*£349*	*Compressor/pre-amp/enhancer*	*Dec 97*
LA Audio	4x4	£464	Dual compressor/gate/variable filter	Mar 97
LA Audio	*C*	*£399*	*Quad compressor/limiter/de-esser/filters*	
LA Audio	C-2021	£706	Dual valve compressor	Nov 96
LA Audio	*Classic*	*£925*	*High-quality compressor/limiter*	
LA Audio	CV	£699	8-channel compressor	
LA Audio	*CX2*	*£249*	*Dual compressor/limiter*	
LA Audio	GCX2	£189	Dual compressor/gate	Apr 97
Peavey	*CDS-2*	*£183*	*Compressor/limiter/de-esser*	
Phonic	PCL3200	£200	Compressor/limiter/gate	
Presonus	*ACP-8*	*£595*	*8-channel analogue-controlled dynamics processor*	*Feb 97*
Presonus	Blue Max	£189	Mono/stereo compressor/limiter/pre-amp with presets	Sep 97
Presonus	*DCP-8*	*£749*	*8-channel fully programmable dynamics processor*	*Feb 97*
Rane	DC-24	£635	Stereo compressor/limiter/gate with built-in crossover	
Rane	*SC-22*	*£452*	*Dual compressor/limiter with full control/metering*	
SPL	DynaMaxx	£586	Dual auto-compressor, noise gate, de-compressor, soft limiter	
Symetrix	*421*	*£529*	*Automatic gain controller*	
Symetrix	25	£399	Stereo/dual mono compressor/limiter/expander	
Symetrix	*488*	*£585*	*8-way compressor for multitrack use*	
Symetrix	501	£329	Single-channel peak/RMS compressor/limiter	
Symetrix	*501/01*	*£379*	*501 with input transformer*	
Symetrix	602	£2110	Stereo digital dynamics processor, MIDI, digital I/O	
Symetrix	*SX208*	*£288*	*Stereo compressor/limiter*	
TC Electronic	M5000	£2957	Digital audio mainframe processor: 2 digital/2 analogue I/Os, expandable system	
TL Audio	*-3021*	*£399*	*Dual compressor*	
TL Audio	C1	£1170	Stereo valve compressor	
TL Audio	*Indigo 2021*	*£704*	*2-channel valve compressor*	*Jun 96*
TL Audio	Indigo 2051	£704	Mono valve voice processor	Jun 96
UFEX	*Comp*	*£247*	*Dual stereo compressor*	
Vestax	L-201	£449	Dual compressor/limiter	
Yamaha	*GC2020C*	*£359*	*2-channel compressor/limiter*	

DELAYS

MANUFACTURER	MODEL	PRICE	EFFECTS	DESCRIPTION	REVIEW
Klark Teknik	DN7204	£tbc		2-in, 4-out digital delay with parametric EQ and limiter	
Korg	*DL8000R*	*£469*		*Digital multi-tap delay*	*Dec 97*
Roland	SDE-330	£856	19	High-quality delays using the RSS system for 3D sound	
TC Electronic	*2290-22D4*	*£1886*		*Digital delay/sampler/effects processor, expandable*	
Yamaha	D1030	£1369		18-bit DA, 1 in, 3 out digital delay line/crossover	
Yamaha	*D5000*	*£1279*	*12*	*Professional digital delay for live or studio use with 20-bit processing*	

ENHANCERS

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Aardvark	Aardscape	£675	Analogue tape saturation processor	Spr 97
Aphex	*104 Aural Exciter C2*	*£239*	*Budget exciter with 'Big Bottom' sub-harmonic synthesis*	
Aphex	Aural Exciter III	£1143	Studio-quality exciter with full spec	
BBE	*DI-100*	*£120*	*DI box with Sonic Maximizer*	*May 97*
Behringer	EX1	£249	Virtual stereo image processor with phase correlation meter	
Behringer	*EX1000j*	*£249*	*Sub-harmonic synth ('boom box') with limiter*	
Behringer	EX2100j	£149	Dual processor sound enhancer (with jacks)	
Behringer	*EX3100j*	*£249*	*Multi-band enhancer with bass and surround processor*	
Behringer	EX4000	£249	Multi-band studio enhancer	
DBX	*120XP*	*£300*	*Sub-harmonic synthesizer ('boom box')*	*Feb 97*
DBX	296	£417	Spectral enhancer	
Digilab	*GSE-3D*	*£116*	*Expressor*	
PPM	Francinstein	£586	Unusual stereo image enhancer/exciter/EQ	
SPL	*Charisma*	*£1174*	*8-channel 'tube' processor designed to simulate tape saturation*	*Dec 96*
SPL	Charisma 2	£586	2-channel version of Charisma	
SPL	*Classic Vitalizer*	*£tbc*	*Spectral enhancer*	
SPL	Machine Head	£2349	Digital tape saturation processor	
SPL	*Stereo Vitalizer*	*£586*	*Jack-fitted stereo spectral enhancer*	
SPL	Tube Vitalizer	£2349	Stereo enhancer with valves	Feb 98
TC Electronic	*Finalizer*	*£1750*	*Digital, programmable mastering processor*	*Jan 97*
TLAudio	2031	£469	2-channel valve overdrive	Jan 98

EQS

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Altec Lansing	1431A	£504	1/3-octave, 31-band graphic EQ	
Altec Lansing	*1432A*	*£809*	*Dual 1/3-octave, 31-band graphic EQ*	
Altec Lansing	1905A	£1745	5-band parametric EQ	
Amek	*System 9098 EQ*	*£1350*	*Neve-designed EQ with built-in mic amp*	
Aphex	109 Parametric EQ	£399	4-band parametric EQ with 'Tubessence' valve technology	
Aphex	*Dominator*	*£2019*	*3-band peak processor*	
ARX	EQ15	£698	Dual 2/3-octave constant Q graphic EQ	
ARX	*EQ30*	*£634*	*Single 1/3-octave constant Q graphic EQ*	
ARX	EQ60	£993	Dual 1/3-octave constant Q graphic EQ	
ARX	*MultiQ*	*£656*	*6-band, fully sweepable parametric EQ*	
Behringer	DE2000	£250	Multi-band de-esser/feedback killer	
Behringer	*DSP8000*	*£649*	*Dual EQ/limiter/feedback killer*	
Behringer	PEQ305	£246	5-band parametric EQ	
BSS	*DPR501 MkII*	*£934*	*4-band mono parametric EQ*	
BSS	FCS916	£640	Parametric EQ	
BSS	*FCS930*	*£687*	*Mono/dual 30-band graphic EQ*	
BSS	FCS960	£1087	Dual stereo EQ	
DBX	*242*	*£339*	*Parametric EQ*	
DBX	263X	£186	Mono de-esser	
DBX	*902*	*£323*	*De-esser module*	
DBX	905	£548	3-band parametric EQ	
DBX	*1531*	*£460*	*2x15 or 1x31 graphic EQ*	
DBX	3015	£763	Dual 15-channel graphic EQ	
DBX	*3031*	*£763*	*Single 31-channel graphic EQ*	
DBX	3231	£1174	Dual 31-channel graphic EQ	

Interchangeable capsule microphones

Several manufacturers of quality microphones have adopted the idea of making interchangeable acoustic capsules fit a standard microphone body containing the electronics – a philosophy in complete contrast to makers offering different grade electronics using the same capsule.

Although it's easy enough to swap a complete dynamic for its alternative, the reasoning behind the interchangeable capsule idea becomes clear when you consider that top-flight condenser microphones, more so than their budget electret versions, contain quite a lot of sophisticated, therefore expensive, electronics in their physical make-up (FET pre-amplifiers, HT power-supply regulators, and wireless systems).

Yet generally you will want to choose a different microphone, purely in those cases where you need to change the acoustic properties, such as an alternative directivity-pattern, sensitivity, or frequency-response characteristic. Examples include shotgun microphones for long-range OB, where the studio room acoustic is difficult, or where it is particularly good!

Changing the capsule alone saves you the cost of duplicated electronic sub-systems, and is more acoustically accurate than a switchable general-purpose capsule.

Some starter models are the AKG C460 (£494) and C480 (£518) with the AKF CK capsule range (£207-£519); Sennheiser K6 (£208) with the ME capsule range (£129-£264); Neumann KM100 (£238) with the AK capsule range (£640-£808); Beyer UC00 UHF handheld wireless (£1293) with the H series of capsules (£199). See also associated series like the B&K 4006 (£1234) with interchangeable acoustic equalisers (£87-£106). ▪ Stuart Limbrick

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Drawmer	1961	£1170	Valve EQ	
FAT	PCP330 Procoder	£299	11-band vocoder	Nov 97
Focusrite	Green Two	£939	EQ with mic pre-amp, line inputs	May 97
Focusrite	Red2	£2345	Stereo EQ	
Klark Teknik	DN360	£tbc	Dual 32-band graphic EQ	
Klark Teknik	DN3600	£tbc	Programmable dual channel 30-band graphic EQ	
Klark Teknik	DN4000	£tbc	Dual channel 5-band parametric EQ with delay	
Klark Teknik	DN6000	£tbc	DSP audio spectrum/time analyser	
Klark Teknik	DN8000	£tbc	Loudspeaker processor	
LA Audio	V8	£817	8-channel valve signal conditioner	Jun 96
MTR	GE-1515	£240	Dual 15-band graphic, 1U, balanced, XLRs	
Mutronics	Mutator	£740	MIDI-controlled analogue filterbank and envelope generator	Apr 97
Nightpro	EQ-3D	£1056	Dual-channel 6-band EQ	Aug 97
Peavey	AEQ-2800	£434	MIDI-equipped programmable graphic EQ	
Peavey	PME-4	£183	4-band parametric EQ	
Peavey	PME-8	£306	Dual 4-band parametric EQ	
Peavey	Spectrum Filter	359	Analogue filter unit for fattening sounds	
Phonic	PEQ3300	£170	31-band mono graphic EQ	
Phonic	EQ3400	£176	15-band stereo graphic EQ	
Phonic	PEQ3600	£259	31-band stereo graphic EQ	
Prism Sound	MEA-2	£2000	Stereo/2-channel 4-band precision EQ with switchable Q and frequency	Mar 98
Rane	FME-15	£383	2/3-octave, 15-band micrographic module	
Rane	FPE-13	£383	3-band parametric EQ modular Flex module	
Rane	GE14	£602	Dual 2/3-octave, 14-band constant-Q filter graphic EQ with switchable boost/cut	
Rane	GE27	£583	Dual 1/3-octave, 27-band constant-Q filter graphic EQ with switchable boost/cut	
Rane	GE30	£799	Single 1/3-octave, 30-band constant-Q filter graphic EQ with 60mm faders	
Rane	GE60	£969	Dual 1/3-octave, 30-band constant-Q filter graphic EQ with accurate calibration	
Rane	GQ30	£651	1/3-octave, 30-band constant-Q filter graphic EQ	
Rane	ME15	£435	Dual 2/3-octave, 15-band graphic EQ with switchable boost/cut	
Rane	ME15B	£464	Balanced version of ME15	
Rane	ME30	£427	1/3-octave, 30-band graphic EQ with switchable boost/cut	
Rane	ME30B	£452	Balanced version of ME30	
Rane	ME60	£764	Dual 1/3-octave, 30-band graphic EQ with sweepable HPF/LPF	
Rane	MPE 14	£879	Dual programmable 2/3-octave, 14-band constant-Q filter graphic EQ	
Rane	NEQ228B	£1169	2x28-band programmable EQ, up to 16 presets	
Rane	PE15	£423	5-band parametric EQ with balanced connectors	
Rane	PE17	£552	5-band parametric EQ with balanced connectors and 20Hz-20kHz range	
Roland	AP-700	£1599	Multi-EQ feedback processor	
Sabine	BX Solo	£335	Single-channel line feedback killer	
Sabine	FBX Solo	£387	Single-channel line feedback killer with mic inputs	
Samson	E30	£219	Dual 15-band graphic EQ	
Samson	E62	£299	1/3-octave, dual 31-band graphic EQ	
Samson	PF6	£349	6-channel, 4-band parametric EQ	
Sherman	Filterbank	£449	Filter module	May 97
SPL	Optimizer	£939	4-band parametric EQ	
Symetrix	SX201	£270	3-band parametric EQ with pre-amp	
TC Electronic	1128	£1965	Programmable graphic EQ and room analyser	
TC Electronic	1140HS	£522	4-band mono parametric EQ/pre-amp	
TC Electronic	2240HS	£884	4-band stereo parametric EQ/pre-amp	
TL Audio	EQ1	£822	2-channel valve EQ with mic pre-amps	Jan 95
TL Audio	EQ2	£1522	2-channel parametric valve EQ with mic pre-amps	Jan 95
TL Audio	EQ-3011	£399	2-channel EQ	Mar 97
TL Audio	EQ-3012	£399	4-band parametric EQ	Mar 97
TL Audio	EQ-5013	£469	2-channel valve parametric EQ	Apr 98
TL Audio	Indigo 2011	£704	2-channel, 4-band valve EQ	Jun 96
TL Audio	Indigo 2012	£704	2-channel, parametric valve EQ	Nov 96
TL Audio	N1	£1875	Dual shelve/peak Neve EQ, repackaged in 19-inch rack	
Vestax	GE-30	£350	Dual 15-band graphic EQ	
Vestax	GE-31	£350	31-band graphic EQ	
Vestax	GE-33S	£499	Stereo 30-band graphic EQ	
Vestax	GE-62	£550	Dual 31-band graphic EQ	
Waldorf	Miniworks 4-pole	£269	Filter module	
Yamaha	DEQ5	£2399	19-bit AD, 20-bit DA, studio-quality fully digital EQ system in 2U box	
Yamaha	DEQ5E	£1849	Slave unit for DEQ5	
Yamaha	GQ1031C	£319	Mono 31-band graphic EQ	
Yamaha	GQ2031B	£589	Stereo 31-band graphic EQ	
Yamaha	GQ2015A	£319	Stereo 15-band graphic EQ	
Yamaha	Q1131	£879	Professional-quality mono 31-band graphic EQ	
Yamaha	Q2031A	£589	Stereo 31-band graphic EQ	
Yamaha	YDG2030	£1199	Professional digital graphic EQ with 20-bit AD/DA	
Yamaha	YDP2006	£1199	Professional digital parametric EQ with 20-bit AD/DA	
Z-Sys	z-q1	£2932	Stereo digital parametric EQ	Mar 97

EXPANDERS

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Aphex	622	£1039	Pro-quality stereo expander/gate	
Behringer	XR1400	£299	Quad semi-automatic expander/gate	
Behringer	XR2000	£299	Automatic class-A expander/gate	
Behringer	XR2400	£399	Automatic quad expander/gate	
DBX	274	£539	Quad expander/gate	
Drawmer	DL231	£560	Dual expander	
Drawmer	DS301	£617	Dual expander/noise gate	
Drawmer	LX20	£229	Expander/compressor	

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Symetrix	564	£1058	Quad expander/gate	

LIMITERS

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Behringer	1800	£299	8-channel recording limiter for ADAT/DA-88	
Digilab	*GSL-4M*	*£212*	*Quad limiter*	

MULTI-EFFECTS PROCESSORS

MANUFACTURER	MODEL	PRICE	EFFECTS	DESCRIPTION	REVIEW
Alesis	MicroVerb 4	£229	3	100 presets, 2 adjustable parameters, 100 memories	Mar 95
Alesis	*MidiVerb 4*	*£329*	*20*	*4 simultaneous effects*	*Mar 95*
Alesis	Q2	£699	44	Alesis' top-of-the-line effects processor	
ART	*DRX-2100SE*	*£639*	*60*	*10 simultaneous effects*	
ART	Effects Network	£299	7	Quality studio incarnation of ART's stage effects	
ART	*Extreme*	*£225*	*8*	*Rock-guitarist geared processor with 2 simultaneous effects*	
ART	FX-1	£159		30 presets, dual processing, true stereo	Jan 97
ART	*FXR*	*£200*	*16*	*255 presets, can be used as 2 separate mono effects, but no memories*	
ART	FXR Elite	£299	16	FXR with more programming and MIDI control	Oct 94
ART	*MDC-2001*	*£499*	*5*	*Features 5 combinable effects*	
ART	MR-1	£169	16	Pocket-sized budget preset effects module	
ART	*Multiverb Alpha SE*	*£399*	*60*	*Good mid-range unit with 7 simultaneous effects*	
ART	SGX 2000	£799	70	Same as the Nightbass, but aimed at guitarists	
ART	*SGX Nightbass SE*	*£799*	*70*	*Quality bass effects and amp sims with 20 simultaneous effects*	
ART	SGX Nitro	£629	70	1U guitar effects processor with 12 simultaneous effects	
Behringer	*Virtualizer DSP1000*	*£144*	*7*	*20-bit A/D and D/A converters, MIDI-controllable and dual mono operation*	
Boss	SX-700	£469	30	128 presets, 128 memories, MIDI control	Jul 96
Boss	*VT-1*	*£399*	*3*	*Vocal transformer*	*Jan 98*
DigiTech	DHP-33	£699	5	Combined three-part harmony generator and effects processor	
DigiTech	*GSP-2101*	*£999*	*21*	*Tube pre-amp with similar effects to the TSR-12*	
DigiTech	MIDI Vocalist	£449	5	As Vocalist II, but without song memories	
DigiTech	*RPM1*	*£549*	*1*	*Valve-based rotary-speaker simulator*	
DigiTech	Studio 400	£800	23	Beefed-up version of the Studio Quad with similarly high-quality effects	Jan 97
DigiTech	*Studio Quad V2*	*£529*	*22*	*Independent dual mono/stereo parallel effects processor*	
DigiTech	Studio Twin	£230	12	99 presets, 3 adjustable parameters, 99 memories, parametric EQ, MIDI control	
DigiTech	*Studio Vocalist*	*£999*	*5*	*Improved harmony processor, can provide instant voice sex changes*	
DigiTech	TSR-12	£399	55	Similar to the TSR-24, but lacks some of the more powerful features	Feb 95
DigiTech	*TSR-24S*	*£799*	*55*	*24-bit effects processor with user-definable effects chains*	
DigiTech	TSR-6	£299	22	Cut-down version of the TSR-12	
DigiTech	*Vocalist II*	*£549*	*5*	*Creates harmonies of up to five parts and stores up to 50 song lists*	*Jan 95*
DigiTech	Vocalist Workstation	£750	6	Four-part harmonies created on the fly or via MIDI control	
DigiTech	*VOFX*	*£249*	*9*	*Vocal multi-effects processor. You want Daleks? You got Daleks*	
DOD	512	£180	6	Multi-effects processor working in true stereo or dual mono	
Ensoniq	*DP/2*	*£799*	*61*	*Stereo and dual mono effects unit*	
Ensoniq	DP/4+	£1299	21	Extremely powerful unit which can act as four separate units or combine effects	
Ensoniq	*DP Pro*	*£999*	*39*	*128 presets, 256 memories, true stereo in/out, dual effects processor*	*Aug 97*
Eventide	DSP4000	£4694		The ultimate in high-end effects processors, the proverbial 'clever box'	
Hughes & Kettner	*Tube RotoSphere*	*£249*	*4*	*Valve-driven Leslie simulator, for the studio or stage*	
Ibanez	VA3	£299	8	Amp simulator and effector floor unit	
Kawai	*RV4*	*£849*	*4*	*Aimed to be a rival to the QuadraVerb, this is a simple but good sounding delay unit*	
Korg	AM8000R	£468	40	128 presets, 128 memories, with good real-time control and MIDI	Feb 98
Korg	*G5*	*£299*	*1*	*Turns bass players into Bootsy with synth bass treatment*	
Korg	Ih	£399	3	Harmoniser panel to complement i-series keyboards	Jun 96
Lexicon	*300*	*£4641*	*3*	*Good-sounding studio effects with digital I/O*	*Dec 94*
Lexicon	Alex	£389	16	16 presets, 3 adjustable parameters, 16 memories	Dec 94
Lexicon	*LXP15*	*£979*	*2*	*Easy to use unit based on the classic LXP range*	*Dec 94*
Lexicon	MXP1	£1199	6	200 presets, 250 memories, MIDI control, S/PDIF I/O	Apr 97
Lexicon	*PCM80*	*£2133*	*10*	*Extremely impressive pro-level effects*	*Feb 95*
Lexicon	Reflex	£469	8	Budget, but usable, multi effects	
Lexicon	*Vortex*	*£468*	*16*	*Unusual 'morphing' effects system*	
Nureality	Vivid 3D Plus	£71	1	Adds 3D effect to sounds	
Oberheim	*GM1000*	*£800*		*18-bit, 512 presets, 9 simultaneous effects*	
Oberheim	GM400	£500		Smaller version of GM1000, 384 presets	
Peavey	*Addverb*	*£300*	*35*	*Superb range of effects types and features for the price*	*Feb 97*

Going digital on a budget

So your appetite was whetted by last month's *Digital Mixing Special*, but you can't stretch to the sexy new Spirit 328, or Yamaha's groovy 03D? Don't worry, because you can still join in the digital revolution with one of the more affordable mixers on the market.

Korg's 168 SoundLink has just been reduced in price, and you can now pick one up for less than a grand. If you can live without digital inputs, then for the same price you can have Yamaha's ProMix 01, still a good buy despite its age. The model that's replacing it is the 01/V, which adds digital interfacing while not putting too much on the pricetag.

And don't forget, too, that many of the new breed of digital multitrackers also have digital mixers built-in: Roland's VS series and Korg's D8 among them.

Bargain buy: Korg's 168 SoundLink

MANUFACTURER	MODEL	PRICE	EFFECTS	DESCRIPTION	REVIEW
Peavey	Bass-Fex	£699	18	Flexible, bass-geared effects with eight simultaneous effects	
Peavey	*DeltaFex*	*£155*	*9*	*2 adjustable parameters, but no memories, true stereo*	*Nov 96*
Peavey	Pro-Fex	£699	18	Full control over all 16 simultaneous effects make this extremely flexible	
Peavey	*Ultraverb 2*	*£319*	*6*	*MIDI controllable unit with 600 memories*	
Peavey	Univerb 2	£229	2	Rich-sounding reverbs and basic echo	
Roland	*RE-800*	*£265*	*5*	*Budget, mic-ready reverb and delay*	
Roland	RSS-10	£2199	1	3D sound creator using the Roland Sound Space system to great effects (geddit?)	Nov 95
Sony	*HRMP5*	*£449*	*100*	*Small, but impressive effects*	
Sony	DPS-V77	£1322	64	198 presets, 198 memories, true stereo in/out	Jul 97
TC Electronic	*G-Force*	*£1299*	*9*	*255 presets, 100 memories, MIDI, S/PDIF, true stereo guitar effects processor*	*Feb 98*
TC Electronic	M5000	£2648		Open-ended, software-based super effects system	
TC Electronic	*Wizard M2000*	*£1639*	*7*	*256 presets, 256 memories, analogue/digital I/O*	*Aug 96*
Viscount	EFX10	£200	18	MIDI controllable, true stereo	Jun 96
Viscount	*EFX100*	*£190*	*16*	*100 presets, 200 programs, 100 user*	
Yamaha	SPX990	£850	43	20-bit processing, superb effects and flexible programming	
Yamaha	*SPX1000*	*£1385*	*22*	*Excellent effects, the ability to take short samples and a digital I/O*	
Zoom	1201	£99	11	363 effects, with one banks devoted to reverbs, delays/multis and weird stuff	
Zoom	*Studio 1202*	*£200*	*16*	*512 presets, 2 adjustable parameters, 100 memories, 2-band EQ*	*Oct 96*
Zoom	Studio 1204	£199	17	Parallel effects, 2 adjustable parameters, true stereo, MIDI controllable, 2-band EQ	
Zoom	*7010 Fire*	*£300*	*28*	*Combined effects and guitar amp*	

NOISE GATES

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Aphex	105 Logic Assisted Gate	£399	Budget 4-channel noise gate	
ARX	*xGate*	*£528*	*6-channel noise gate with balanced I/O*	
BSS	DPR502	£793	Stereo noise gate	
BSS	*DPR504*	*£852*	*Quad noise gate*	
BSS	*DPR 522*	*£464*	*Fully specified 2-channel gate with fine control over all its parameters*	*Apr 98*
DBX	172	£954	'Super gate' noise gate	
DBX	*904*	*£323*	*Noise gate module*	
Digilab	GSG-3D	£193	Dual noise gate	
Digilab	*GSG-4M*	*£193*	*Quad gate*	
Drawmer	DF320	£499	Noise filter	
Drawmer	*DS201X*	*£405*	*Dual noise gate with balanced XLRs*	
Drawmer	DS404	£617	Quad noise gate	
LA Audio	*4G*	*£399*	*Quad noise gate/filters*	
LA Audio	GX2	£249	Dual frequency-sensitive gate	
LA Audio	*MG*	*£995*	*16-channel programmable noise gate*	
Peavey	NGT-2	£183	Dual noise gate	
UFEX	*Gate*	*£247*	*Dual stereo noise gate*	
Vestax	DGT-202	£295	Dual-frequency turntable gate	

NOISE REDUCTION

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Behringer	SNR1000	£199	2-channel, single-ended noise reduction system	
Behringer	*SNR2000*	*£299*	*Multi-band, single-ended noise reduction system*	
Peavey	Q-Factor	£275	Dynamic noise reducer	

PRE-AMPS

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Aphex	107 Thermionic Pre-amp	£549	2-channel valve-driven pre-amp	
ART	*Acoustic*	*£349*	*Pre-amp/processor for acoustic guitar*	*Dec 96*
Bellari	RP520	£399	2-channel valve-driven pre-amp	Oct 97
CLM Dynamics	*DB400S*	*£1380*	*4-channel pre-amp with independent limiters*	*Jun 97*
dbx	286a	£230	Mic pre-amp/processor	Jan 98
Demeter	*VTDB-2B*	*£558*	*DI box*	
DigiTech	VTP-1	£1000	Valve pre-amp, solid state EQ, A/D converter	Oct 97
Fairman	*TRC*	*£4582*	*Valve pre-amp, EQ, compressor*	*Jun 97*
Focusrite	Green One	£821	Dual pre-amp	May 97
Focusrite	*Green Three*	*£998*	*Pre-amp, compressor, de-esser, 3-band voice-optimised EQ*	*May 97*
Focusrite	Green Five	£1174	Pre-amp, line input, 6-band EQ, gate, compressor	
Focusrite	*Red1*	*£2261*	*Quad pre-amp*	
Joemeek	Studio Channel VC1	£704	Pre-amp/compressor/enhancer	Apr 97
Joemeek	*Pro Channel VC3*	*£299*	*Pre-amp/compressor/enhancer*	*Sep 96*
Symetrix	01	£2110	Mic pre-amp/voice processor, MIDI, digital I/O	
TL Audio	*PA-3001*	*£399*	*4-channel mic pre-amp*	*Apr 97*
TL Audio	Indigo 2001	£704	4-channel valve pre-amp	
TL Audio	*Indigo 2031*	*£704*	*2-channel valve overdrive*	
TL Audio	PA1	£1052	2-channel pentode valve pre-amp	
TL Audio	*PA2*	*£1052*	*2-channel valve pre-amp*	
TL Audio	VI1	£465	8-channel valve interface	
TL Audio	*VIS*	*£347*	*Record/playback switching unit for VI1*	

REVERBS

MANUFACTURER	MODEL	PRICE	EFFECTS	DESCRIPTION	REVIEW
Alesis	NanoVerb	£169	8	16 presets, 1 adjustable parameter, true stereo	Sep 96
Alesis	*Wedge*	*£449*	*28*	*Desktop unit with 4 control sliders for real-time editing*	
Roland	SRV-330	£856	22	High-quality reverbs using the RSS system for 3D sound	
Viscount	*Gammaverb*	*£118*	*12*	*16 preset variations per effect*	
Yamaha	Pro R3	£1056	6	Pre-/post-EQ reverb unit, 32-bit processing	
Yamaha	*REV100*	*£265*	*28*	*100 presets, 3 adjustable parameters, 100 memories, MIDI controllable*	
Yamaha	REV500	£399	9	100 presets, 100 memories, MIDI controllable, 32-bit processing	May 97

SAMPLERS

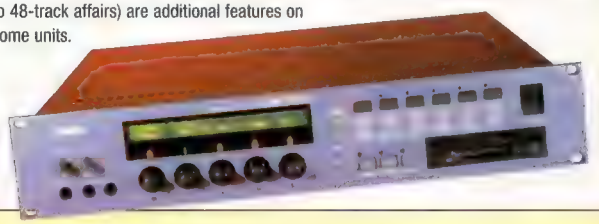
FORMATS: *Rack* samplers are the traditional production tool, capable of sampling sounds or complete sections, with some offering effects and HDR. *Drum Machines* combine short samples with a sequencer. *Phrase* (or sampling workstations) and *Keyboard* samplers are most suited to performing DJs and musicians, and may offer sequencing and effects.

POLYPHONY: More is generally better, though may (on cheaper models) mean poorer sound quality. Common offerings are 16, 32, 64, and now, even 128-note polyphony.

MEMORY: Again, more is better. It ranges from 384k to 128Mb (on pro models), and this is often expandable. The recently-developed *Flash ROM* retains data on powering-down.

OUTPUTS: Up to eight individual outputs as well as a main stereo pair are the norm for pro machines. On less advanced models you may find only a stereo pair, or two stereo pairs, although expander boards are available for some models.

OTHER FEATURES: *SCSI* will allow you to connect hard drives, CD-ROM drives, and computers to your sampler. *Digital I/O; synthesis; and sequencing* (ranging from notepad to 48-track affairs) are additional features on some units.



DRUM MACHINE

MANUFACTURER	MODEL	PRICE	RAM	DESCRIPTION	REVIEW
Akai	MPC2000	£1199	2Mb	32-note polyphony, 2 outs, up to 48Mb RAM, sequencer	Apr 97
Akai	*MPC3000*	*£2799*	*2Mb*	*32-note polyphony, 10 outs, up to 16Mb RAM, S/PDIF input, sequencer*	*Jun 95*

PHRASE

MANUFACTURER	MODEL	PRICE	RAM	DESCRIPTION	REVIEW
Akai	Remix 16	£749	2Mb	8-note polyphony, 2 phono outs, up to 16Mb RAM, notepad sequencer, crossfader	Jul 96
Akai	*S20*	*£499*	*1Mb*	*8-note polyphony, 2 outs, up to 16Mb RAM, notepad sequencer*	*Mar 98*
Boss	SP202 Dr Sample	£299	2Mb	4-note polyphony, 2 outs, up to 4Mb RAM via SmartMedia	
Ensoniq	*ASR-X*	*£1199*	*2Mb*	*32-note polyphony, 2 outs, up to 34Mb RAM, synthesis, sequencer, effects*	*Nov 97*
Yamaha	SU10	£299	384K	4-note polyphony, 1 out, flash RAM, ribbon controller, scratch function	

KEYBOARD

MANUFACTURER	MODEL	PRICE	RAM	DESCRIPTION	REVIEW
Ensoniq	ASR-10	£1799	2Mb	31-note polyphony, 2 outs, up to 16Mb RAM, sequencer, HDR, effects, 61 keys	
Ensoniq	*ASR-88*	*£2999*	*16Mb*	*As ASR-10, but with maximum RAM, SCSI, CD-ROM drive, 88 weighted keys*	
E-mu	E4K	£3526	4Mb	64-note polyphony, 8 outs, up to 128Mb, HD, sequencer, 76 semi-weighted keys	Aug 96
Kurzweil	*K2000S*	*£2799*	*2Mb*	*24-note polyphony, 6 outs, up to 64Mb RAM, synthesis, 76 semi-weighted keys*	
Kurzweil	K2500S	£4349	2Mb	48-note polyphony, 10 outs, up to 128Mb RAM, synthesis, 76 semi-weighted keys	
Kurzweil	*K2500S*	*£4610*	*2Mb*	*48-note polyphony, 10 outs, up to 128Mb RAM, synthesis, 88 weighted keys*	

RACK

MANUFACTURER	MODEL	PRICE	RAM	DESCRIPTION	REVIEW
Akai	CD3000XL	£1699	8Mb	32-note polyphony, 10 outs, up to 32Mb RAM, HDR, built-in CD-ROM	Jan 97
Akai	*S2000*	*£799*	*2Mb*	*32-note polyphony, 2 outs, up to 64Mb RAM*	
Akai	3000XL	£1499	2Mb	32-note polyphony, 10 outs, up to 64Mb RAM, HDR	Jan 96
Akai	*S3200XL*	*£2499*	*16Mb*	*32-note polyphony, 8 outs, up to 32Mb RAM, effects, HDR*	*Oct 97*
E-mu	e6400	£2519	4Mb	64-note polyphony, 8 outs, up to 128Mb RAM, sequencer	
E-mu	*E4X*	*£3149*	*4Mb*	*64-note polyphony, 8 outs, 540Mb HD, up to 128Mb RAM, sequencer, effects*	*Aug 96*
E-mu	E4X Turbo	£4409	4Mb	128-note polyphony, 8 outs, 1Gb HD, up to 128Mb RAM, sequencer, effects	Oct 97
E-mu	*ESI-4000*	*£1199*	*2Mb*	*64-note polyphony, 4 outs, up to 128Mb RAM, SCSI*	*Feb 98*
E-mu	ESI-4000 Turbo	£1499	2Mb	As ESI-4000, but with 2 extra outs, effects, effects sub-mix out, S/PDIF I/O	Feb 98
E-mu	*ESI-4000 TurboZ*	*£1699*	*2Mb*	*As ESI-4000 Turbo, but with 100Mb ZIP drive*	*Feb 98*
Kurzweil	K2000RS	£2799	2Mb	24-note polyphony, 6 outs, up to 64Mb RAM, synthesis, sequencer, effects	
Kurzweil	*K2500RS*	*£3881*	*2Mb*	*48-note polyphony, 10 outs, up to 128Mb RAM. synthesis, sequencer, effects*	*Oct 97*
Peavey	SP+	£1169	2Mb	Sample playback module for SXII: 32-note polyphony, 4 outs, up to 32Mb RAM	
Peavey	*SXII*	*£399*	*256K*	*Sampling front-end for SP+: up to 16Mb RAM, SCSI*	
Yamaha	A3000	1299	2Mb	64-note polyphony, 4 outs, up to 128Mb RAM, 3 effects processors	Jul 97

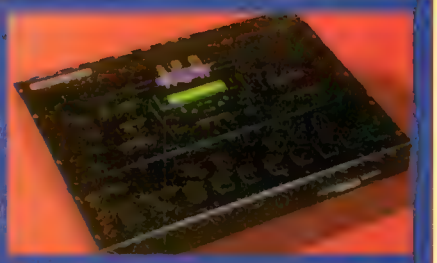
RAM raid: upgrading your sampler

Watching the ups and downs of the RAM market recently has been a lot like studying share prices. But overall, prices are still down massively compared to just a few years ago. Most samplers have vacant slots for a few extra megabytes and you should be able to install the RAM yourself.

Samplers aren't like computers; RAM upgrades don't enhance performance, but they can make sample editing easier, and they'll certainly allow you to hold more samples onboard. This can make the difference, for example, between using a single drum loop for an entire song, or a handful of related loops.

All recent machines can be upgraded using standard computer RAM, which should bring significant savings. And providing you buy the correct specification (branded) devices, they should present no problems.

Akai owners can choose from 4MB or 16MB 72-pin SIMMS (not 8MB) and these may be parity or non-parity types – though preferably you should stick to non-parity. You also need to ensure these are 70nS (or faster) devices. Roland machines require 72-pin non-parity SIMMS and these must operate at 60nS or faster. Make sure you check your manual before you buy, as configurations vary from model to model.



Upgrades to E-mu machines must be made using 4, 16 or 64MB SIMMS. 8 and 32MB cannot be used. You'll need 72-pin, 60nS (or faster) devices and these can be either parity or non-parity – but not both. Ensoniq EPS16 (and 16+) users have to buy upgrades from Ensoniq (and machines older than this can no longer be upgraded), but the ASR series is expandable using 30-pin, non-parity DRAM (not SIMMS). These should be 80nS or faster. The exception is the ASR-X which carries one slot for SIMMS up to 32MB, non-parity.

Finally, on all those machines which take flash ROM upgrades, the memory cards have to be bought from the manufacturers themselves. The only exception to this is Roland, who don't supply their own cards (for the MS-1), but have appointed a dealer – Peak Developments: 01962 713906.

• *Nigel Lord*

MAC SOFTWARE & HARDWARE

SEQUENCERS: The sequencer is at the heart of every MIDI system. This list includes sequencers with digital audio capabilities that might require specific additional hardware (covered in 'Audio Hardware'), as well as more traditional versions.
EDITOR/LIBRARIANS: A universal (or 'generic') editor or librarian is a single piece of software that is able to communicate with many different MIDI devices to edit or arrange their stored patches.
SCORING: Scoring packages range from simple programs designed to provide quick output of score to fully specified professional music publishing solutions.
HARDWARE: Audio hardware covers computer-based hard-disk recording (HDR) systems and other computer hardware.
MIDI INTERFACES: These are covered in the separate section entitled 'Interfaces'.
PLUG-INS: The increasing number of plug-ins available are relevant to audio programs such as Cubase VST, Digital Performer and Digidesign's ProTools. Some are program specific, while others will work across several packages.

Wherever possible, Power Mac-specific gear is mentioned, as well as RAM requirements.

SEQUENCERS

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Cubase Audio XT v3	Steinberg	£699	16Mb	Includes Virtual Studio Technology, HDR and TimeBandit, Power Mac only	Jul 96
Cubase Score v3 VST	*Steinberg*	*£499*	*8Mb*	*Includes Virtual Studio Technology, HDR and scoring, Power Mac only*	*Feb 96*
Cubase VST v3.5	Steinberg	£329	16Mb	HDR, support for 3rd-party plug-ins, data streaming, Power Mac only	Sep 97
Cubasis	*Steinberg*	*£129*	*8Mb*	*64-track, entry-level program based around Cubase*	*Mar 95*
Cubasis AV	Steinberg	£129	16Mb	64 MIDI tracks with 8 stereo audio tracks for Power PC	
CyberSound	*InVision*	*£199*	*8Mb*	*Sequencer and software synthesizer combination*	*Aug 96*
Digital Performer v2.11	MotU	£549	16Mb	Sequencer integrated with HDR, mixing, real-time effects, sampler support	Jan 98
EZ Starter Kit	*Opcode*	*£200*		*Includes MusicShop, Band-In-A-Box, MIDI book, MIDI Translator II*	
EZ Vision	Opcode	£100	4Mb	Entry-level version of Vision	
Freestyle v2	*MotU*	*£149*	*4Mb*	*Open, trackless sequencer/composer program with 'Sense Tempo' feature*	
Logic Audio v3	Emagic	£599	32Mb	Logic with integrated HDR, sample editor, effects processors, Power Mac only	Mar 98
Logic Audio Discovery	*Emagic*	*£269*	*16Mb*	*Budget version of Logic Audio*	*Nov 94*
Logic AV	Emagic	£75		Power Mac-only extension for Logic Audio	
Logic CBX	*Emagic*	*£75*		*Logic Audio extension for Yamaha CBX-D5 users*	
Logic DAE	Emagic	£75		Logic Audio extension for Digidesign users	
Logic TDM	*Emagic*	*£75*		*Logic Audio extension for TDM plug-in hardware*	
Logic v3	Emagic	£399	4Mb	Hugely powerful and flexible MIDI system	Apr 97
MasterTracks Pro v6	*Passport*	*£150*	*2Mb*	*Pro-level, easy-to-use sequencer, but only single-staff notation*	
microLOGIC v2	Emagic	£99	4Mb	Entry-level version of Logic	Jul 94
microLOGIC XL	*Emagic*	*£119*	*4Mb*	*microLOGIC with GM files and keyboard shortcuts*	*Jul 94*
MusicShop	Opcode	£150	4Mb	Sequencer/notation based around EZ Vision	
Performer v5.5	*MotU*	*£349*	*8Mb*	*Visually pleasing interface; requires 12Mb in System 7.5, 16Mb on Power PC*	
StarterPac	Steinberg	£149		Cubasis and interface starter package	
Studio Vision AV	*Opcode*	*£649*	*4Mb*	*Sequencer with Sound Manager-based HDR, Galaxy librarian*	*May 96*
Studio Vision Pro v3	Opcode	£649	4Mb	Sequencer integrated with DAE/CBX-based recording, Galaxy librarian	May 96
Vision v3	*Opcode*	*£350*	*4Mb*	*Graphical sequencer: includes Galaxy librarian*	

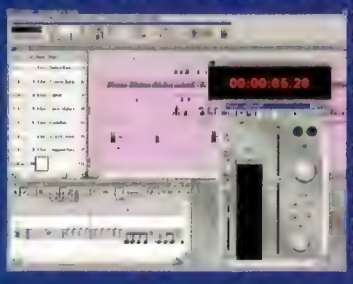
SCORING

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Composers' Mosaic	MotU	£399	2Mb	Top of the range notation package; specially priced academic version available	
Encore v4 Academic	*Passport*	*£250*	*4Mb*	*Special education version of Encore*	
Encore v4	Passport	£450	4Mb	Features MIDI input and automatic beaming	
Finale Allegro v2.01	*Coda*	*£350*	*2Mb*	*Cut-down version of Finale*	
Finale Fonts	Coda	£70	-	Fonts package for use with Finale	
Finale Mac Academic	*Coda*	*£350*	*4Mb*	*Education version with full Power Mac support*	
Finale Mac v3.2	Coda	£700	4Mb	Features MIDI input, playback and Power Mac support	
MusicTime	*Passport*	*£100*	*4Mb*	*Cut-down version of Encore*	

THE MANY FACES OF CAKEWALK

Cakewalk is one of the most popular PC-based sequencers, and it is available in four versions, offering something for all levels of user.

Cakewalk Pro Audio (£329) is aimed at the professional requiring powerful and comprehensive integration of MIDI and digital audio sequencing. It supports 256 MIDI tracks, up to 64 digital audio tracks and features real-time effects loops and track inserts for effects processing during playback.



It has a few effects the other versions don't, such as time-stretching, compression, and pitch shifting, plus several additional processing functions including remove silence, extract audio timing, pitch detection, and audio-to-MIDI conversion with groove quantise. It supports high-end audio hardware such as Session 8, Audiomedia III and Digital Audio Labs' V8, multi-channel soundcards and multiple soundcards. The StudioWare editor allows you to design customise control panels.

If you pay out another £50 you get Cakewalk Pro Audio Deluxe (£379), which includes the Musician's Toolbox II pack – two CDs containing MIDI and audio files to use in your own music, a CAL tutor (Cakewalk's programming language) and 12 online video tutorials.

For £199 you can get Cakewalk Professional. It supports eight audio tracks and slightly fewer plug-in effects, but none of these operate in real-time. It has slightly fewer processes and can't do any audio-to-MIDI tricks. It supports StudioWare panels, but you can't create your own; otherwise the MIDI facilities are almost the same as in Cakewalk Pro Audio.

Cakewalk Home Studio (£99) has two digital audio tracks and supports a handful of off-line effects, although it is compatible with third-party DirectX plug-ins. It has fewer functions in the audio department and it lacks a few of the more esoteric MIDI functions, but it comes with a couple of StudioWare panels.

Cakewalk Express (£49) is the new baby of the range, yet it still offers two tracks of audio, on-line digital effects, and notation with 24 staves. As well, you can publish your files on the internet in RealMedia format, and it also includes six video tutorials. • Ian Waugh

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Nightingale	Musicware	£395	5Mb	Flexible, open-ended score-writer	
Overture v1.1	*Opcode*	*£450*	*4Mb*	*Power Mac-native notation package*	*Nov 94*

UNIVERSAL EDITORS & LIBRARIANS

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Edit One	Opcode	£100	4Mb	An individual Galaxy editor for a specific instrument	
Galaxy Plus Editors v2	*Opcode*	*£349*	*4Mb*	*Universal librarian plus editors for certain instruments*	*Jun 97*
SoundDiver v1	Emagic	£199	1Mb	Universal sound editor and librarian system	
Unisyn v1.14	*MotU*	*£279*	*4Mb*	*Universal sound editor and librarian system*	

PLUG-INS

MANUFACTURER	MODEL	PRICE	PLATFORM	DESCRIPTION	REVIEW
Antares	JVP	£430	TDM	Voice processor	
Antares	*MDT*	*£516*	*TDM*	*Multi-band dynamics tools*	*Oct 96*
Antares	SST	£430	TDM	Corrects or simulates listening conditions	
Apogee	*Mastertools*	*£934*	*TDM*	*UV22 encoding for mastering*	
Arboretum	Hyperprism DAS	£311	AudioSuite	25 plug-ins based on programs from Arboretum's TDM and stand-alone versions	
Arboretum	*Hyperprism TDM*	*£311*	*TDM*	*23 different effects*	*Oct 96*
Arboretum	Hyperprism VST	£276	VST	24 effect algorithms with real-time control	Spr 97
Digidesign	*D-Fi*	*£351*	*AudioSuite*	*4 plug-ins: analogue filter, grunge, rectification, varispeed*	*Aug 97*
Digidesign	DPP-1	£445	TDM	Pitch processor	
Digidesign	*D-Verb*	*£445*	*TDM*	*Reverb processor*	*Oct 96*
Digidesign	SampleCell TDM	£352	TDM	SampleCell sampling	
Drawmer	*Dynamics*	*£539*	*TDM*	*Gate/compressor/expander/limiter*	*Dec 97*
Focusrite	d2	£880	TDM	EQ	
Focusrite	*d3*	*£716*	*TDM/AudioSuite*	Multi-dynamics processor comprising dual compressor/limiter	*Apr 98*
INA/GRM	GRM Tools	£306	TDM	5 plug-ins	Oct 96
Intelligent Devices	*IQ*	*£823*	*TDM*	*Matching equaliser*	*Feb 97*
MotU	PureDSP	£tbc	AudioSuite	Pitch-shifting and time-scaling	
Prosonic	*Roomulator*	*£299*	*VST*	*High-spec reverb*	*Mar 98*
Steinberg	Loudness Maximizer	£169	VST	Compressor/limiter	Mar 97
Steinberg	*Magneto*	*£299*	*VST/TDM*	*Analogue tape saturation emulator*	*Mar 98*
Steinberg	RedValve•It	£499	TDM	Valve pre-amp simulator	May 97
TC Electronic	*TC Tools*	*£774*	*TDM*	*Reverb and chorus*	*Oct 96*
Wave Mechanics	PurePitch	£576	TDM	Real-time pitch processor	
Waves	*AudioTrack*	*£299*	*VST*	*EQ, compressor/expander, noise gate*	*Mar 97*
Waves	Native Power Pack	£499	Cross	6 plug-ins	Spr 97

AUDIO SOFTWARE

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Alchemy	Passport	£500	4Mb	Near-classic SCSI sample editor	
Audioshop v2	*Opcode*	*£150*	*4Mb*	*Sample editor and CD-ROM controller*	
Hyperprism v2.1	Arboretum	£266		21 real-time effects, PPC-native	
MasterList	*igidesign*	*£434*		*Audio cue sheet and edit list software for mastering systems*	*Sep 96*
Peak v1.53	BIAS	£225	8Mb	Audio editor supporting 3rd-party plug-ins and sampler transfer	Nov 97
Pro Tools v4.0	*Digidesign*	*£400*		*New AudioSuite architecture providing Sound Designer II processing features*	*Jan 97*
ProTools PowerMix v4	Digidesign	£716		Software only; works with any Digidesign hardware or Power Mac AV system	Sep 96
ReCycle!	*Steinberg*	*£199*	*4Mb*	*Sample and groove processor/resampler*	
Session	Digidesign	£187		HDR software; Power Macs need no extra hardware	Sep 96
Sound Designer II	*Digidesign*	*£369*	*4Mb*	*Sample processor supporting most sample formats*	*Sep 96*
Synchro Arts	ToolBelt	£387		Pro Tools complement, with added effects	Oct 97
Time Bandit	*teinberg*	*£199*	*4Mb*	*Groove, tempo and pitch-shifting resampling system*	
Turbosynth SC	Digidesign	£304	1Mb	Virtual synthesis, sample manipulation and processing	

AUDIO HARDWARE

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Digidesign	882	£892	I/O audio interface for NuBus or PCI Macs	Sep 96
Digidesign	*882*	*£1785*	*Studio interface for NuBus or PCI Macs*	*Sep 96*
Digidesign	888	£2678	I/O audio interface for NuBus or PCI Macs	Sep 96
Digidesign	*Audio Media II*	*£469*	*Analogue/digital I/O, Sound Designer II, for NuBus Macs*	*Sep 96*
Digidesign	Audio Media III	£704	18-bit stereo AD/DA converters, stereo S/PDIF I/O, for PCI Macs	Sep 96
Digidesign	*Bridge I/O*	*£1244*	*Adds another 8 I/O via 882/888*	*Sep 96*
Digidesign	DINR	£892	Intelligent post-production noise-reduction system	
Digidesign	*DSP Farm*	*£2231*	*4xDSP upgrade for TDM systems*	*Sep 96*
Digidesign	ProTools 24	£7132	24-bit digital recording system, with PCI card, interface and software	Feb 98
Digidesign	*Pro Tools III*	*£6240*	*16-track core system including I/O card and Pro Tools software, for NuBus Macs*	*Aug 96*
Digidesign	Pro Tools III	£7131	16-track core system including I/O card and Pro Tools software, for PCI Macs	Aug 96
Digidesign	*Pro Tools Expansion*	*£4464*	*Adds 16-tracks to Pro Tools III, for NuBus Macs*	*Sep 96*
Digidesign	Pro Tools Expansion	£5228	Adds 16-tracks to Pro Tools III, for PCI Macs	Sep 96
Digidesign	*Pro Tools Project*	*£2232*	*8-track recording with Pro Tools software, for NuBus Macs*	*Sep 96*
Digidesign	Pro Tools Project	£2232	8-track recording with Pro Tools software, for PCI Macs	Sep 96
Digidesign	*SampleCell II*	*£1499*	*8-note polyphonic sampling card, for NuBus Macs*	*Sep 96*
Digidesign	Session 8	£1785	Core system including Session software and I/O card, for PCI Macs	Sep 96
Digidesign	*Session 8 Upgrade*	*£4369*	*Upgrade from Session 8 hard/software to Pro Tools III*	
Digidesign	Session 8XL	£5226	Full Session virtual recording and mixing studio	
Digidesign	*SoundTools II*	*£3091*	*Entry-level incarnation of Digidesign HDR system*	
Digidesign	SoundTools II Upgrade	£3047	Upgrade from SoundTools II to Pro Tools III	
Emagic	*Audiowerk8*	*£499*	*16-bit stereo, 2 in, 8 out PCI-based AD/DA converters, stereo S/PDIF I/O*	*Jun 97*
Korg	1212 I/O	£599	PCI-based card, 10 in, 10 out PCI-based AD/DA converters, S/PDIF I/O	Jun 97
Mackie	*HUI*	*£3171*	*'Human User Interface' for ProTools*	*Feb 98*
MotU	Digital Timepiece	£1049	Audio/timecode synchroniser	Sep 97
Steinberg	*ACI*	*£349*	*Sequencer-controlled ADAT machine control box*	

ATARI SOFTWARE & HARDWARE

This section mainly covers the ST and its variants, but the Falcon is mentioned in specific cases.

The original budget studio computer, the Atari range maintains its appeal in studios for its built-in MIDI ports and low price. The sequencer is at the heart of every MIDI system, and this list covers the many available for the Atari. Universal (or generic) editors and librarians are single pieces of software that are able to communicate with many different devices. Scoring packages range from simple programs designed to provide quick output of score to more sophisticated music publishing solutions. Audio hardware covers sampling systems and other computer hardware.
NOTE: *The Mix* is committed to covering the Atari platform for as long as it is being used.

SEQUENCERS

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Breakthru Plus	Software Technology	£130	1Mb	As Breakthru, but with 32 MIDI channels	
Breakthru Score Printing Kit	*Software Technology*	*£50*		*Score-printing add-on for Breakthru*	
Breakthru v1.2	Software Technology	£100	1Mb	MIDI/sample sequencer with score and drum editing	
Breakthru v2	*Software Technology*	*£130*	*1Mb*	*64-track version of Breakthru with extensions*	
Breakthru v2 Plus	Software Technology	£150	1Mb	32-channel version with special interface	
Cubase Audio Falcon	*Steinberg*	*£699*	*4Mb*	*Sequencer/16-channel recorder using Falcon interface*	*Jun 96*
Cubase Lite	Steinberg	£99	1Mb	Entry-level Cubase with arrange and score edit only	Jun 96
Cubase Score v2	*Steinberg*	*£449*	*2Mb*	*MIDI sequencing and full score editing/printing*	*Jun 96*
MIDIGrid	CDP	£149	1Mb	Phrase-based graphic sequencer	
Sequencer One	*Software Technology*	*£20*	*512K*	*Straightforward beginners' MIDI sequencer*	
Sequencer One Plus	Software Technology	£50	512K	Expanded Sequencer One with better editing	

SCORING

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Music DTP Ed	Take Control	£229	1Mb	Intermediate user's package with MIDI input	
Music DTP Lite	*Take Control*	*£111*	*1Mb*	*Entry-level notation package with MIDI input*	
Music DTP Pro	Take Control	£347	1Mb	Pro-level package with real-time MIDI input	
Vivace Module 3	*Desert Software*	*£90*	*1Mb*	*Score module for use with Vivace sequencer*	

UNIVERSAL EDITORS & LIBRARIANS

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
CMpanion	Software Technology	£50	512K	For Roland D-series and Roland desktop modules	
Patch Vision	*Intrinsic Technology*	*£50*	*512K*	*Universal librarian desk accessory with search and sort options*	
PC128	Intrinsic Technology	£19	512K	Desk accessory sound organiser; runs in colour or mono	
Studio Module	*Steinberg*	*£159*	*2Mb*	*Universal editor, MIDI set-up saver and editor; needs Cubase*	

AUDIO SOFTWARE

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
A-Loader MSK-100	Newtronic	£25	1Mb	Sample loader for S-10/S-220/MKS-100	
Avalon v2.1	*Steinberg*	*£349*	*2Mb*	*Mono editor supporting over 18 sample types*	
Clarity 16 v2.0	Microdeal	£60	4Mb	Sample editor for the Falcon with 44.1/48kHz sampling and HDR	
Replay 16 v1.11	*Microdeal*	*£80*	*1Mb*	*16-bit sampling cartridge and editor*	
Slam v1.1	Intrinsic Technology	£89	512K	Librarian/manager for Akai samplers	
Stereo Master	*Microdeal*	*£39*		*8-bit stereo sampler/editor*	
Zero-X v2.0	System Solutions	£169	1Mb	ReCycle!-type groove-based sample editor	

AUDIO HARDWARE

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Microdeal	Replay 16	£129	16-bit sampling cartridge and editor	
Microdeal	*Replay Stereo*	*£79*	*Stereo 8-bit sampling system*	
MotU	MIDI Timepiece AV	£649	8x8 MIDI interface with SMPTE, LTC video, ADAT Digidesign Superclock sync	Apr 97
Steinberg	*AudioSpecter*	*£399*	*Spectrum analyser software and cartridge for Falcon*	
Steinberg	FDI	£329	Digital interface cartridge for Falcon	

PLUG-IN COMPATIBILITY

Aren't standards wonderful? That's why we have so many of them. The nice thing about plug-ins in digital audio software is that after buying your application, you can increase its facilities by adding third-party add-ons.

On the Mac, the main plug-in format is Adobe Premier, which works with Premier, of course, and many other programs including Peak, Logic Audio, Deck II, Digital Performer, and Opcode's Vision series. Digidesign Pro Tools users require plug-ins in the TDM format, and there are also AudioSuite plug-ins which work with Pro Tools and Logic Audio, for example. Cubase VST has its own plug-in format.

It's currently a bit of a mishmash, although as long as you buy plug-ins which are compatible with your system, you can't go wrong. However, if you change systems, you may not be able to take your plug-ins with you. It also means that to cover the market, developers have to create several formats, which means higher prices.

PC users fare considerably better, for there really is only one PC plug-in format – DirectX – for which we have Microsoft to thank. Virtually every digital audio program supports DirectX, including WaveLab and Cubase VST. However, VST still has its own format, and a dedicated VST plug-in gives you the advantage of automation whereas DirectX plug-ins do not. WaveLab has its own format, too, but most DirectX plug-ins work just as well.

Fortunately, plug-in developers are starting to include several versions on one CD. We may see a move towards an Adobe Premier standard for Macs, but it's not happening yet. • Ian Waugh

PC SOFTWARE & HARDWARE

SEQUENCERS: The sequencer is at the heart of every MIDI system. This list includes sequencers with digital audio capabilities that might require specific additional hardware (covered in 'Audio Hardware').
EDITOR/LIBRARIANS: A universal (or 'generic') editor or librarian is a single piece of software able to communicate with many different devices.
SCORING: Scoring packages range from simple programs designed to provide quick output of scores to fully specified professional music publishing solutions.
AUDIO HARDWARE: This listing covers hard-disk recording (HDR) systems and other computer hardware.

MIDI INTERFACES: These are covered in the separate section entitled 'Interfaces'.
PLUG-INS: The increasing number of plug-ins available are relevant to audio programs such as Cubase VST and Digital Performer. Some are program specific, while others will work across several packages.

Wherever possible, Win95-specific software is mentioned. Soundcards are listed under 'Audio Hardware'.

SEQUENCERS

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Audio Pro	Evolution Electronics	£100	4Mb	MIDI/audio sequencer with 16 styles and karaoke	
Audition GS/XG	*Sunrize*	*£82*	*4Mb*	*MIDI sequencer with GS/XG editing*	
Cakewalk Home Studio v5	Cakewalk	£99	2Mb	Entry-level version of Cakewalk	
Cakewalk Pro Audio Deluxe	*Cakewalk*	*£399*	*4Mb*	As Pro Audio, but with 2 CD-ROM collection of additional software	
Cakewalk Pro Audio v6	Cakewalk	£329	16Mb	MIDI and audio, with effects, plug-ins, WAV HDR; requires CD-ROM and Win95	Oct 97
Cakewalk Pro Windows v5	*Cakewalk*	*£199*	*2Mb*	*Windows 3.1 version of Cakewalk*	
Cakewalk SongStation v5	Cakewalk	£69	2Mb	Entry-level composition system on CD	
Cubase Audio XT v3	*Steinberg*	*£699*	*16Mb*	*Includes HDR*	*Jul 96*
Cubase Score v3	Steinberg	£499	8Mb	Includes HDR and scoring	Feb 96
Cubase VST 3.5	*Steinberg*	*£329*	*16Mb*	*32 channels of digital audio, 128 real-time EQs, 4 channel and 4 master effects*	*Jan 98*
Cubase VST 3.5 Score	Steinberg	£329	16Mb	As above, but with scoring facilities	
Cubase v3.02	*Steinberg*	*£329*	*16Mb*	*HDR, WaveLab Lite, support for 3rd-party plug-ins, Audio Media III/Korg 1212*	*Mar 97*
Cubase v3.5	Steinberg	£329	16Mb	As v3, but with data streaming	Sep 97
Cubase On Line	*Heavenly Music*	*£13*	-	*On-line tutorial and help software for Cubase*	
Cubasis AV	Steinberg	£99	8Mb	64-track, entry-level program based around Cubase	
Cubasis Audio	*Steinberg*	*£199*	*4Mb*	*Cubasis with WAV recording support*	
Digital Orchestrator Plus	Voyetra	£130	4Mb	Windows-based sequencer with digital audio and effects	
Freestyle	*MotU*	*£149*	*4Mb*	*Open, trackless sequencer/composer program*	
Logic Audio Discovery	Emagic	£99	16Mb	Budget version of Logic Audio	Nov 96
Logic Audio v3	*Emagic*	*£599*	*32Mb*	*Logic with integrated HDR, sample editor, effects processors, Win 95/Pentium*	*Mar 98*
Logic v3	Emagic	£399	16Mb	Full-featured sequencing package	
MasterTracks Pro v6	*Passport*	*£150*	*2Mb*	*Pro-level, easy-to-use sequencer, but only single-staff notation*	
microLOGIC v2	Emagic	£99	2Mb	Entry-level version of Logic for Windows users	
microLOGIC XL	*Emagic*	*£119*	*4Mb*	*microLOGIC with GM files and keyboard shortcuts*	
MIDI Workshop	Passport	£70	1Mb	Entry-level version of MasterTracks with multimedia	
MIDIGrid	*CDP*	*£149*	*1Mb*	*Phrase-based graphic sequencer*	
Musicator Audio	Musicator A/S	£300	8Mb	Sequencer/hard-disk recorder with notation, mixing, SMPTE/MTC sync	
Musicator Windows v2.1	*Musicator A/S*	*£200*	*4Mb*	*Windows version of Musicator GS with hard-disk recording facility*	
PC Drummer v1	Sunrize	£58	2Mb	GM rhythm pattern editor: very basic stuff	
Powertracks Pro	*PG Music*	*£50*	*1Mb*	*48 tracks, MIDI file support, GS editor and sync*	
Quartz	Canam	£40	4Mb	Multimedia sequencer, links MIDI to WAV files	
Quartz	*Canam*	*£40*	*8Mb*	*8-track hard-disk recorder*	
QuickScore Pro	Dr T's	£99	4Mb	Score editor with extra MIDI functions	
Sequencer Plus Classic	*Voyetra*	*£100*	*640K*	*500-track DOS/text-based sequencer*	
Sequencer Plus Gold v4.1	Voyetra	£250	640K	3,300-track expanded version of Classic	
Sequencer Plus Junior	*Voyetra*	*£40*	*512K*	*Entry-level DOS/text MIDI sequencer*	
Sound Studio	Evolution Electronics	£60	4Mb	32-track sequencer and 2-track recorder	
Sound Studio Pro	*Evolution Electronics*	*£150*	*4Mb*	*100-track sequencer and 4-track recording package*	
Sound Studio Gold	Evolution Electronics	£150	4Mb	256-track sequencer with 16 audio tracks	Spr 97
Sound Suite	*Voyetra*	*£140*	*4Mb*	*Bundle which includes Orchestrator Plus, WAV editor, AV players and MIDI files*	
StarterPac	Steinberg	£149		Cubasis and interface starter package	
Vision v2.5 for Windows	*Opcode*	*£234*	*12Mb*	*Vision for the Mac has been ported for Windows*	*Mar 97*

SCORING

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Finale 1997	Coda	£499	8Mb	Music notation software, requires Win95/Pentium	

UNIVERSAL EDITORS & LIBRARIANS

PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
MIDIQuest Windows v5	SoundQuest	£250	4Mb	Generic editor and librarian	
SoloQuest	*SoundQuest*	*£100*	*2Mb*	*Single-instrument editor for Windows; DOS version also available*	
Studio Module	Steinberg	£159	2Mb	Universal editor, MIDI set-up saver and editor; needs Cubase	
Unisyn v1.2	*MotU*	*£229*	*4Mb*	*Universal editor and librarian*	

PLUG-INS

MANUFACTURER	PROGRAM	PRICE	PLATFORM	DESCRIPTION	REVIEW
Sonic Foundry	Sound Forge Plug-Ins	£299	Sound Forge	Batch converter, noise reducer, spectrum analyser plug-ins	Jul 97
Soundscape	*Reverb*	*£275*	*Soundscape*	*Reverb plug-in*	*Jul 95*
Soundscape	Time Module	£150	Soundscape	Time compression plug-in	Jul 95
Steinberg	*Declicker*	*£299*	*WaveLab*	*Click removal plug-in*	
Steinberg	Denoiser	£299	WaveLab	Noise removal plug-in	
Steinberg	*Loudness Maximiser*	*£299*	*WaveLab*	*Volume adjustment plug-in*	
Steinberg	Magneto	£299	WaveLab	Analogue tape saturation emulator	Mar 98
PROGRAM	**MANUFACTURER**	**PRICE**	**RAM**	**DESCRIPTION**	**REVIEW**
Waves	Native Power Pack	£499	Cross	6 plug-ins	Spr 97

AUDIO SOFTWARE

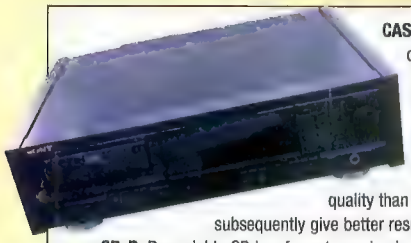
PROGRAM	MANUFACTURER	PRICE	RAM	DESCRIPTION	REVIEW
Audio Architect v3	Karnataka Group	£120		Modular analogue synthesizer	

MANUFACTURER	MODEL	PRICE		DESCRIPTION	REVIEW
CD Architect	*Sonic Foundry*	*£259*		*Red Book-standard CD burning software, for Win95 and NT, inc Sound Forge XP*	*Nov 97*
CDP	CDP	£495		High-end sampler/synthesis/sound processing system	
Cool Edit Pro	*Syntrillium*	*£349*	*8*	*64 audio tracks, DirectX plug-in support, Cakewalk integration, for Win95 and NT*	*Feb 98*
DART	Tracer	£349		Removes clicks, hums, buzzes and other noises from WAV files	
FastEdit	*DAL*	*£189*		*Editor for WAV files with MIDI trigger playlist; works with any Win soundcard*	
Native PowerPack	Waves	£499		WaveConvert plus processing and effects plug-ins for SoundForge, WaveLab	
ReCycle!	*Steinberg*	*£199*	*4Mb*	*Sample and groove processor/resampler*	
Resample Pro	KCCM	£99	4Mb	Sample format converter covering all major types	
Samplitude Pro	*SEK'D*	*£250*	*4Mb*	*High-quality hard-disk recorder/editor*	*Mar 95*
Samplitude Studio	SEK'D	£400		16-track version of Samplitude Pro, needs fast hard disk	Mar 95
Session v2.52	*Digidesign*	*£175*		*2–4 tracks of HDR, 8 tracks of simultaneous playback, plus EQ, mix automation*	*Sep 96*
SoundForge v4.0a	Sonic Foundry	£299	8Mb	Sample editing, timestretching and format conversion, CD-ROM required	May 97
SoundForge XP	*Sonic Foundry*	*£99*		*Basic editing only in this budget version*	
Soundstation	Sunrize	£58	4Mb	Sample editor with Fourier analysis, synthesis, MIDI pitching	
WaveConvert v1.01	*Waves*	*£229*		*File format converter; handles sample rates and bit depths*	
Wave For Windows v2	Turtle Beach	£69		Digital sample editor	
WaveLab v1.6	*Steinberg*	*£399*	*16Mb*	*Waveform editor and processor with plug-ins, CD mastering; for Win95 or NT*	*Jun 97*
Wave Safe	PsL	£65		Protection and salvage of digital audio files	Apr 98
Wave Safe Pro	*PsL*	*£130*		*As above, with additional support and features*	*Apr 98*

AUDIO HARDWARE

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
AdB	Multi!WAV	£449	AES/EBU and S/PDIF digital I/O card	
AdB	*Multi!WAV Pro 18*	*£549*	*Pro-level, 18-bit digital I/O card*	
Audio and Video	SADiE	£2300	4-track HDR plus Windows editing software, timecode, digital I/O, DSP, MIDI	
AVM	*Apex*	*£299*	*32-note polyphony, 16-part multi, up to 64Mb RAM, analogue I/O, MIDI*	
CreamWare	tripleDAT	£1290	Digital I/O card with HDR software	Dec 96
Creative Labs	*AWE32 PnP*	*£210*	*32-note polyphony, 512K RAM, wavetable synthesis, sampling, 3-format CD-ROM*	
Creative Labs	AWE64	£169	64-note polyphony, 512K RAM, expandable to 8Mb, wavetable synthesis, sampling	Apr 97
Creative Labs	*AWE64 Gold*	*£199*	*64-note polyphony, 4Mb RAM, expandable to 8Mb, wavetable synthesis, sampling*	*Jul 97*
Creative Labs	SoundBlaster 16 Value	£86	Full-length 16-bit sampling true stereo card, FM synth, MIDI	
Creative Labs	*SoundBlaster 16 Value*	*£86*	*Full-length 16-bit sampling true stereo card, FM synth, MIDI for IDE interface*	
Creative Labs	SoundBlaster 32	£146	16-bit, 44.1kHz sampling, 32-note GM wavetable synth, up to 28Mb RAM	
Creative Labs	*WaveBlaster II*	*£67*	*Soundcard based on E-mu's synthesis; 32-note polyphony, GM compatibility*	
DAL	CardD Plus	£599	16-bit simultaneous HD recording and playback	
DAL	*Digital Only CardD*	*£349*	*Digital-only version of CardD*	
DAL	I/O CardD	£249	Adds S/PDIF digital I/O to CardD	
Digidesign	*882*	*£892*	*I/O audio interface*	*Sep 96*
Digidesign	882	£1785	Studio interface for Session 8	Sep 96
Digidesign	*888*	*£2678*	*I/O audio interface*	*Sep 96*
Digidesign	Audio Media III	£704	18-bit stereo AD/DA converters, stereo S/PDIF I/O	Sep 96
Digidesign	*Bridge I/O*	*£1244*	*Adds another 8 I/O via 882/888*	*Sep 96*
Digidesign	SampleCell II	£1139	8-note polyphonic sampling card, for ISA PCs	Sep 96
Digidesign	*Session 8*	*£1785*	*Core system including Session software and I/O card*	*Sep 96*
Emagic	Audiowerk8	£499	16-bit stereo, 2 in, 8 out PCI-based AD/DA converters, stereo S/PDIF I/O, Win95	Jun 97
Ensoniq	*Soundscape Elite*	*£239*	*16-bit, wavetable card with excellent Ensoniq sounds*	
Frontier	WaveCenter	£498	16-bit ISA card, with S/PDIF and ADAT digital I/O but no analogue audio	Mar 98
Gravis	*PnP*	*£150*	*44.1kHz, 16-bit sampling, GM synth with 1Mb ROM on Plug and Play card*	
Gravis	PnP Pro	£200	Plug and Play with added 512K sample RAM	
Innovative Quality	*SAMM*	*£399*	*Digital system for use with Yamaha's ProMix 01*	
Innovative Quality	SAW Classic	£249	Original 4-track version of SAW at entry-level price	
Innovative Quality	*SAW Plus*	*£699*	*Expanded, 16-track version of SAW; needs fast hard disk and P90 or better*	
Innovative Quality	SAW v6	£399	Pro-quality 4-track HDR system with editing, mixing, playback and effects	
Koch	*TripleDAT*	*£1173*	*Card and software for editing and remastering DATs*	
MediaTrix	AudioTrix Pro	£270	Full duplex AD/DACs, CD-ROM ports, MIDI cable, GM and 3D-sound option	
MAXi	*Sound 64 Home Studio*	*£150*	*44.1kHz, 16-bit sampling, 64-note polyphony, expandable to 16Mb RAM, PnP*	*May 97*
Midiman	DiO	£tbc	1-in, 1-out AES/EBU and S/PDIF digital audio card	
Midiman	*DMan*	*£249*	*16-bit, full-duplex digital audio card*	
Midiman	DMan 2044	£tbc	20-bit digital audio card with 4 I/Os, on-board DSP, synth and MIDI interface	
Midiman	*DMan Digital Studio*	*£279*	*DMan card with Samplitude software*	
Midiman	EQMan	£89	7-band stereo graphic equaliser PC card	
Midiman	*Flying Cow*	*£tbc*	*20-bit stereo external DAC in half-rack module*	
MotU	MIDI Timepiece AV	£649	8x8 MIDI interface with SMPTE, LTC video, ADAT Digidesign Superclock sync	Apr 97
New Dimensions	*Technosound PC*	*£40*	*Real-time effects processor board for SoundBlaster cards*	
Orchid	NuSound PnP	£100	3D surround-sound wavetable synth with Plug and Play support for Win95	
Reveal	*WAVExtreme32*	*£80*	*GM soundcard*	
Roland	ATW-10	£360	16-bit sampling card with GM synthesis and Audio Toolworks editing software	
Roland	*SCC-1*	*£299*	*24-note, 16-part GM/GS card with MIDI interface*	
Soundscape	*SS8IO-1*	*£600*	*8-channel analogue upgrade: TDIF, ADAT I/O, Word/Super Clock*	*Jul 95*
Soundscape	SSAC-1	£600	Accelerator card upgrade, enables additional program and 8-channel TDIF	Jul 95
Soundscape	*SSHDR1*	*£2500*	*Rackmount, 8-track HDR system*	*Jul 95*
Turtle Beach	CD Master II	£849	Pro digital mastering with included CD-ROM drive kit	Dec 94
Turtle Beach	*Digital I/O upgrade*	*£120*	*Digital port upgrade for Fiji and Pinnacle cards*	*Dec 94*
Turtle Beach	Fiji	£369	High-quality soundcard, supports hard-disk recording	Dec 94
Turtle Beach	*Fiji with Digital I/O*	*£469*	*Fiji card with digital connection support*	
Turtle Beach	Interface adapter	£20	MIDI port for Maui and Monterey cards	
Turtle Beach	*Pinnacle*	*£479*	*Latest high-quality soundcard*	
Turtle Beach	Pinnacle with Digital I/O	£579	Pinnacle card with added digital ports	
Turtle Beach	*TBS 2000*	*£169*	*GM, 48kHz sampling, simultaneous record/playback*	
Turtle Beach	Tropez Plus	£269	16-bit wavetable card, sampling, CD-ROM interface, up to 12Mb RAM, MIDI	
Yamaha	*DB50XG*	*£129*	*Daughterboard featuring GM/XG synth, 3 effects processors*	
Yamaha	MU10XG	£199	External SW60XG module, including PC/Mac cable and Cubasis	
Yamaha	*SW60XG*	*£149*	*Stand-alone DB50 ISA card with effects; includes Cakewalk Express*	*Jan 97*

STEREO RECORDERS



CASSETTE: Still the most widely used consumer recording format, analogue audio cassette can provide acceptable results as a mastering format when high-quality machines and media are used. Models aimed at the studio and musician are generally of a higher quality than consumer models and will subsequently give better results.

CD-R: Recordable CD is a format growing in popularity, largely due to the price of recorders coming down. There are two types of CD-R available: stand-alone hardware models, and SCSI-based drives that connect to your computer. Blank CD-Rs are getting cheaper, too, with time/price currently at around 2.5 to 4p per minute.

DAT: Digital Audio Tape is still the mastering format of choice for most studios, providing (as it does) excellent sound quality and relatively cheap media. Audio quality does not vary wildly between basic models and 'professional' models, though with the more expensive DATs you can expect balanced I/O, digital I/O, and a fully-featured remote.

MINIDISC: This format does not give as good quality audio as DAT, but it is a cheap way into digital mastering – consumer models typically cost several hundred pounds. The media itself isn't too expensive and can be overwritten many times.

CASSETTE

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Denon	DN790R	£699	Studio-quality cassette deck	
Sony	*WMD-6C*	*£299*	*Top-spec, professional recording Walkman*	
Tascam	102MkII	£479	Pro-quality cassette mastering deck	
Tascam	*202MkII*	*£799*	*Pro-quality double cassette mastering deck*	

CD-R

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
HHB	CDR-800	£1299	32/44.1/48kHz inputs, digital synchronous dubbing mode	
Marantz	*CDR610*	*£3989*	*Analogue and digital I/O*	
Marantz	CDR615	£tbc	Built-in SRC, balanced analogue I/O, auto-track increment, S/PDIF I/O	
Philips	*CDR 870*	*£500*	*CD recorder that can also use rewriteable discs*	*Jan 98*
Pioneer	PDR-04	£699	Analogue and digital I/O, but writes SCMS	
Pioneer	*PDR-05*	*£1299*	*Analogue and digital I/O, but writes SCMS*	*Nov 96*
Plasmon	CD4240	£586	Internal CD-ROM burner	Oct 96
Plasmon	*CD4240*	*£870*	*External CD-ROM burner, SCSI card, software*	*Oct 96*

DAT

MANUFACTURER	MODEL	PRICE	DESCRIPTION	REVIEW
Fostex	D5	£899	Semi-pro standard digital recorder	Mar 97
Fostex	*D10*	*£2695*	*Pro-level DAT master machine*	
HHB	PDR1000	£3401	4 heads, portable	
Panasonic	*SV-3800*	*£1291*	*2 head, 44.1/48kHz sample rates, analogue/digital I/O, error display*	*Mar 97*
Pioneer	D-05	£899	2 head	Mar 97
Sony	*DTC-670*	*£799*	*Semi-pro DAT*	
Sony	DTC-A6	£799	2 head, 32–48kHz sample rates, SCMS	Jun 97
Sony	*DTC-A8*	*£949*	*2 head, 32–48kHz sample rates, SCMS*	*Jun 97*
Sony	DTC-A9	£1169	2 head, 32–48kHz sample rates, XLR in/out, SCMS	Jun 97
Sony	*DTC-D8*	*£599*	*Mic input, 44.1kHz analogue in, 1-bit A/D and D/A, digital I/O, portable*	*Mar 97*
Sony	PCM-2300	£1481	2 heads, balanced I/O	
Sony	*PCM-2600*	*£1469*	*2 heads*	
Sony	PCM-2700A	£2095	4 heads	
Sony	*PCM-R500*	*£1169*	*32–48kHz sample rates, AES/EBU I/O*	*Oct 97*
Sony	PCM-R700	£2056	4 heads, 32–48kHz sample rates, AES/EBU I/O	Oct 97
Tascam	*DA-20 MkII*	*£799*	*44.1kHz sample rate*	*Mar 97*
Tascam	DA-30 MkII	£1299	44.1kHz analogue in, AES/EBU I/O, balanced analogue out, shuttle wheel	Mar 97
Tascam	*DA-302*	*£1499*	*2 DAT recorders in one unit, for simultaneous digital cloning and duplication*	*Apr 98*
Tascam	DA-P1	£1499	Portable DAT recorder with XLRs and 48V phantom power	

Compressed Audio: The Facts

Using compression in digital audio systems has been around for some time now, and curiously gained widespread acceptance on Sony Video8 camcorders. With these machines, the equivalent of 12-bit audio was created using only 8-bit recording, but with compression. On playback the compression algorithm was reversed, thus acting as an expander to restore it to an uncompressed audio signal. On some models, the Video8 format (if used for audio only) can actually record eight stereo audio tracks, using the area reserved for video to store this data.

Roland's VS-880 does have the facility to compress the audio tracks. The result is that less data is required to store the compressed audio, which saves on hard disk space and allows more tracks to be replayed simultaneously. Again, the audio is expanded on playback. Companding (compress/expand) audio does have side-effects, i.e. a touch more presence, but most people find they can live with it.

Currently, the VS-880 is the only major hard disk multitracker that offers compression; however, the use of compressed audio on computer platforms is widespread. Here are a number of common audio file formats that use it:

- IMA (Interactive Multimedia Association): IMA uses a compression ratio of 4:1 to shrink 16-bit sound files.
- MACE (Macintosh Audio Compression and Expansion): Creating an 8-bit sound file this low-fi format uses two compression ratios which affect the frequency response (MACE 3:1, 11kHz and MACE 6:1 5.5kHz).
- µ-law: Another compressed 8-bit file, this time at 2:1 to yield a reasonable sound quality. • *Bob Dormon*

MULTITRACK RECORDERS

ANALOGUE: Analogue cassette and reel-to-reel represent old technology as digital strengthens its hold on the market. Reel-to-reel recorders are virtually extinct, while cassette still offers a cheap way into recording with Portastudios.

DIGITAL TAPE: The Alesis ADAT popularised the high-end consumer video format of S-VHS. It records 40 minutes of audio on a two-hour tape. Up to 16 ADAT machines can be synced together to provide 128 audio tracks. Hi-8 cassettes are used by Tascam's rival DTRS modular eight-track system, which can deliver 128 tracks in a multi-machine set-up. The cost of tape for DTRS is much cheaper than with the ADAT system.

MINIDISC: MD exists in two formats: Audio and Data. Audio discs are used on MD hi-fi systems, while Data discs are used by computers and MD four-tracks. Most MD systems will only work at 44.1kHz and few have digital outputs.

HARD DISK RECORDING: Whether it's a computer system or a dedicated hard-disk recorder, the exponential rise in storage capacity and drive efficiency has taken hard-disk recording into a new era, with dozens of tracks and software controlled mixers and effects available. You'll eventually have to back-up your data when the drive gets full.

MAGNETO-OPTICAL: MO is a removable format able to store large amounts of data. The cost of multitrack recording on this convenient format is cost-effective too.

ANALOGUE CASSETTE

MANUFACTURER	MODEL	PRICE	TRACKS	DESCRIPTION	REVIEW
Fostex	X-14	£149	4	1 input, built-in mic	
Fostex	*XR-3*	*£249*	*4*	*2 inputs, Dolby B NR, 2-track simultaneous record, high speed*	
Fostex	XR-5	£379	4	4 inputs, Dolby C NR, high speed	
Fostex	*XR-7*	*£499*	*4*	*6 inputs, 3-band EQ, Dolby C NR, 2 speeds*	
Peavey	MCR-4A	£919	4	2-speed	
Peavey	*MCR-4S*	*£1012*	*4*	*2-speed, sync*	
Tascam	134	£1190	4	2-speed, rackmount machine for AV work	
Tascam	*414*	*£349*	*4*	*4 inputs, 2-band EQ, dbx NR, 2 aux, high speed, 4-track simultaneous record*	*Spr 97*
Tascam	424MkII	£499	4	8 inputs, 3-band EQ, dbx NR, 2 aux, 2 speeds, MIDI sync, auto punch in/out	
Tascam	*488MkII*	*£1299*	*8*	*12 inputs, 3-band EQ, dbx NR, 2 aux, high speed, MIDI sync, phantom power, inserts*	
Tascam	Porta03MkII	£169	4	2 inputs, Dolby B NR, 2-track simultaneous record	
Yamaha	*MT4X*	*£559*	*4*	*4 inputs, 3-band EQ, dbx NR, 2 aux, 2 speeds, MIDI sync*	*Aug 96*
Yamaha	MT50	£399	4	4 inputs, EQ, dbx NR, 1 aux, 4-track simultaneous record	
Yamaha	*MT8X II*	*£999*	*8*	*14 inputs, 3-band EQ, dbx NR, 2 aux, high speed, MIDI sync, phantom power, inserts*	

ANALOGUE REEL-TO-REEL

MANUFACTURER	MODEL	PRICE	TRACKS	DESCRIPTION	REVIEW
Tascam	TSR-8	£2299	8	High-quality, flexible 8-track half-inch tape recorder	

DIGITAL TAPE

MANUFACTURER	MODEL	PRICE	TRACKS	DESCRIPTION	REVIEW
Alesis	ADAT XT	£2699	8	Updated ADAT, improved control and sound quality; S-VHS format	Feb 96
Fostex	*RD8*	*£3999*	*8*	*ADAT compatible recorder with lots of control; S-VHS format*	*July 94*
Rane	RC24A	£1087	-	Converts ADAT into 24-bit 4-track machine	
Rane	*RC24T*	*£1028*	-	*Converts DA-88 into 24-bit 4-track machine*	
Tascam	DA-38	£2099	8	Entry-level version of the DA-88 with internal patch bay and shuttle control	Oct 96
Tascam	*DA-88*	*£2799*	*8*	*ADAT-rival digital multitrack tape; uses cheaper Hi-8 tape*	
Tascam	DA-98	£3999	8	Timecode, MIDI, video, digital interfacing, scrub wheel, large LCD read-out	Nov 97

MINIDISC

MANUFACTURER	MODEL	PRICE	TRACKS	DESCRIPTION	REVIEW
Sony	MDM-X4	£799	4	10 inputs, 3-band EQ, 2 aux, MMC sync, MTC/MIDI Clock out	Mar 97
Tascam	*564*	*£1099*	*4*	*12 inputs, 3-band EQ, 2 aux, MMC sync, MTC/MIDI Clock out, S/PDIF out*	*Sep 96*
Yamaha	MD4	£699	4	8 inputs, 3-band EQ, 1 aux, MTC/MIDI Clock out	Sep 96
Yamaha	*MD8*	*£999*	*8*	*12 inputs, 3-band EQ with sweepable mid, 2 aux, MTC/MIDI Clock*	

HARD DISK

MANUFACTURER	MODEL	PRICE	TRACKS	DESCRIPTION	REVIEW
Akai	DR4d	£1499	4	16-bit, 32–48kHz sample rate, AES/EBU inputs, SMPTE board	
Akai	*DR8*	*£2799*	*8*	*As DR4d, but with enhanced editing and mixing controls*	*May 95*
Akai	DR16	£3999	16	As DR8, but with 128-track operation possible with 8xDR16	Oct 97
E-mu	*Darwin*	*£2879*	*8*	*Easy-to-use unit with 8:2 digital mixer, interface options and improved OS*	
E-mu	Darwin	£2999	8	As above, but with hard disc	Mar 96
Ensoniq	*PARIS*	*£2499*	*16*	*4 inputs, 4 outputs, 4-band EQ, 16 sends, 8 returns*	*Jan 98*
Fostex	D-80	£1299	8	8 inputs, 8 outputs, MIDI and digital I/O in rack-mounted caddy-loading IDE unit	May 96
Fostex	*D-90*	*£1499*	*8*	*As D-80, but with ADAT interface*	*Jul 97*
Fostex	D-160	£2931	16	8 inputs, 16 outputs, memory management and a wide variety of interface options	Dec 97
Fostex	*DMT-8 VL*	*£999*	*8*	*8 inputs, 2-band EQ, 2 sends, 2 stereo returns, 2-track simult. record, S/PDIF I/O*	*Mar 97*
Korg	D8	£849	8	2 inputs, 2 outputs, 2-band EQ, 2 sends, 2 stereo returns	Mar 98
Otari	*RADAR*	*£8813*	*8*	*48 minutes of audio per track, 16-bit sampling, 32–48kHz, analogue/digital I/O*	*May 97*
Otari	RADAR	£13278	16	48 minutes of audio per track, 16-bit sampling, 32–48kHz, analogue/digital I/O	May 97
Otari	*RADAR*	*£18213*	*24*	*48 minutes of audio per track, 16-bit sampling, 32–48kHz, analogue/digital I/O*	*May 97*
Roland	DM-800	£3975	4	Digital mixer/recorder, supports 8 tracks with external drive	
Roland	*VS-880*	*£1499*	*8*	*8 inputs, 3-band digital EQ, 2 aux, MIDI-automated mixer, MTC/MMC, digital I/O*	
Roland	VS-880 VXPanded	£2238	8	As VS-880, but with built-in 1.4Gb HD, VS8F-1 effects board	Jun 97
Soundscape	*SSHDR1-Plus*	*£3200*	*12*	*10 in, 12 out, PC-based system with 24-bit processing, 48kHz sampling*	*Mar 98*
Vestax	HDR-6	£2349	6	MIDI-controllable recorder with sophisticated built-in digital mixer	

MAGNETO-OPTICAL DISC

MANUFACTURER	MODEL	PRICE	TRACKS	DESCRIPTION	REVIEW
Akai	DD1500	£tbc	tbc	Digital audio workstation	
Genex	*GX8000*	*£6456*	*8*	*24-bit digital audio workstation*	*Feb 97*

UPDATES

Manufacturers and distributors should send updates, price changes and corrections to *The Mix Buyer's Guide* by either post or e-mail, to the following addresses:
Buyer's Guide, The Mix, Future Publishing, 30 Monmouth Street, Bath BA1 2BW

CONTROLLERS & INTERFACES

CONTROLLERS: These include master keyboards, guitar controllers, wind controllers, breath controllers, trigger interfaces and drum pads.
MIDI/CV CONVERTERS: For hooking up your pre-MIDI synths to your system, a MIDI/CV converter is needed. These offer a varying number of channels (one for each synth) and may also offer other interfacing options.
INTERFACES: MIDI interfaces can be either universal or platform specific (i.e just for Mac, PC or Atari). Interfaces for the Atari usually offer multiple MIDI connections. Some interfaces combine several other functions, such as a MIDI patchbay along with timecode options.

MIDI CONTROLLERS

MANUFACTURER	MODEL	PRICE	TYPE	DESCRIPTION	REVIEW
Akai	EWI3020	£349	Wind	Sax-like controller	Feb 95
Akai	*ME 35T*	*£299*	*Trigger*	*Takes drum pad or mic triggers and converts to MIDI*	
Akai	MX1000	£1299	Keyboard	Full-spec controller; the PM76 Piano Card turns it into a digital piano	
Casio	*GZ-5*	*£65*	*Keyboard*	*32 mini keys, velocity slider, pitchbend,mod wheels plus a few built-in sounds*	
Doepfer	LMK1+	£699	Keyboard	88-note hammer action master keyboard with 4 zones	
Doepfer	*LMK2+*	*£799*	*Keyboard*	*88-note hammer action master keyboard with 4 zones*	
Doepfer	LMK4+	£1099	Keyboard	88-note hammer action master keyboard with 8 zones	
Doepfer	*MAQ 16/3*	*£595*	*Sequencer*	*Analogue-style sequencer for MIDI*	
E-mu	Launch Pad	£429	Table unit	Central control panel for an entire MIDI system	
evolution uk	*Music Creator*	*£50*	*Keyboard*	*49 full-sized keys, supplied with cables, Key West software*	
evolution uk	Music Creator Pro	£120	Keyboard	49 full-sized keys, includes pitch/mod wheels, cables, Audio Pro software	
Fatar	*CMS 61*	*£280*	*Keyboard*	*61-note unweighted keyboard with recesses for computer keyboard, mouse*	
Fatar	MP1	£250	Bass pedals	Single octave bass pedal controller aimed at organists	
Fatar	*Studio 1100*	*£900*	*Keyboard*	*88-note, aftertouch-sensitive keyboard, 4 zones, memories*	*Apr 95*
Fatar	Studio 1100FC	£1100	Keyboard	Flightcased version of Studio 1100	
Fatar	*Studio 1176*	*£750*	*Keyboard*	*76-note version of Studio 1100*	
Fatar	Studio 2001	£1250	Keyboard	88 weighted keys and pro controller features	
Fatar	*Studio 2001FC*	*£1450*	*Keyboard*	*Flightcased version of the 2001*	
Fatar	Studio 49	£120	Keyboard	49-note velocity-sensitive keyboard	
Fatar	*Studio 610*	*£230*	*Keyboard*	*61-note velocity-sensitive keyboard*	
Fatar	Studio 610+	£300	Keyboard	Studio 610 with aftertouch-sensitive, weighted keys	
Fatar	*Studio 900*	*£650*	*Keyboard*	*88-note keyboard aimed at live musicians*	
Fatar	Studio 900FC	£849	Keyboard	Flightcased version of Studio 900	
Goldstar	*GMK49*	*£169*	*Keyboard*	*49-key master keyboard*	*Mar 95*
Kawai	Datacat	£149	Keyboard	37-note keyboard with transpose, pitch-bend, assignable mod wheel	
Kawai	*MDK61II*	*£409*	*Keyboard*	*61-note, velocity-sensitive keyboard with pitchbend, mod wheel, bank select*	
Midiman	Keyman 49	£89	Keyboard	49 mini-key controller keyboard	
Novation	*MM10-X*	*£160*	*Keyboard*	*2-octave, velocity sensitive, with assignable mod wheel, pitchbend, transpose*	
Peavey	DPM C8	£1799	Keyboard	88 keys, 3 controller wheels, 3.5-inch disk drive, 8 zones, 2 MIDI Ins, 4 MIDI Outs	
Peavey	*DPM C8p*	*£1469*	*Keyboard*	*More affordable version of the DPM-C8*	*Mar 97*
Peavey	PC1600	£329	Table unit	Programmable, with buttons, sliders, data wheel, 50 presets, 100 scenes	
Q-Logic	*Mac K..AT*	*£110*	*Table unit*	*21-function remote controller for Apple Mac*	
Quasimidi	Cyber 6	£999	Keyboard	61-key controller with special techno effects alongside the usual controls	Mar 96
Roland	*A-33*	*£399*	*Keyboard*	*76-note controller*	
Roland	A-90	£1699	Keyboard	Hugely programmable expandable 88-note weighted keyboard	May 96
Roland	*AT-30*	*£5999*	*Keyboard*	*Smaller AT keyboard*	
Roland	AT-50	£7749	Keyboard	Smaller version of AT-70	
Roland	*AT-70*	*£9795*	*Keyboard*	*AT-90 with fewer pedals*	
Roland	GI-10	£469	Module	Pitch-MIDI guitar interface for use with the GK-2A	
Roland	*GK-2A*	*£136*	*Pick-up*	*Guitar pick-up for Roland guitar synths*	
Roland	KP-24	£335	Piano mount	Sensor for acoustic keyboards for use with RA95	
Roland	*MC-303 Groovebox*	*£565*	*Table unit*	*Techno module/sequencer in the vein of the TB-303 and MC-202*	*Aug 96*
Roland	MC-50 MkII	£780	Sequencer	Near industry-standard hardware MIDI sequencer	
Roland	*PC160*	*£135*	*Keyboard*	*Simple, no-frills controller*	
Roland	PC-200 Mk II	£165	Keyboard	Updated version of PC-150 with modulation, pitchbend and data entry slider	
Roland	*PK-5*	*£299*	*Pedal board*	*MIDI bass pedal controller*	
Roland	PMA-5	£445	Hand-held	Handy portable sequencer and sound source in one	Jul 96
Roland	*RA-30*	*£499*	*Table unit*	*Auto-arranger*	
Roland	RA-800	£1599	Table unit	Real-time arranger and sound module combined	
Roland	*RA-95*	*£799*	*Table unit*	*Auto-arranger with built-in sounds*	
Samick	KK1	£599	Keyboard	88-note, weighted controller keyboard	
Samick	*KK1L*	*£399*	*Keyboard*	*76-note version of KK1*	
Sunihama	Jamma	£599	Guitar	Guitar-like MIDI controller	Dec 94
Wersi	*MBP1*	*£349*	*Pedal board*	*13-note MIDI pedal board*	
Yamaha	BC2	£39	Breath	Breath controller headset for use with VL synths	
Yamaha	*CBX-K1*	*£99*	*Keyboard*	*Mini, velocity-sensitive keyboard with assignable mod wheel*	*Sep 95*
Yamaha	KX88	£1649	Keyboard	88 weighted keys, four control sliders and pitch-bend and mod wheels	
Yamaha	*MDF3*	*£379*	*Table unit*	*MIDI data filer, uses 3.5-inch disks*	
Yamaha	QY22	£299	Portable	Walkman-style sequencer with built-in sounds	
Yamaha	*QY70*	*£449*	*Portable*	*Silvery compact music sequencer with slick and up to date styles*	
Yamaha	QY300	£599	Table unit	GM sound module, sequencer & auto-accompaniment player in one	Sep 94
Yamaha	*QY700*	*£999*	*Table unit*	*Advanced version of QY300 with serious sequencing tools*	
Yamaha	WX11	£359	Wind	MIDI wind controller, updates old WX7	
Zildjian	*Kat dk10*	*£549*	*Drum pads*	*10-pad unit with lots of programmability*	

MIDI/CV CONVERTERS

MANUFACTURER	MODEL	PRICE	CHANNELS	DESCRIPTION	REVIEW
EES	MIDI-CV7	£449	7	CV and gate outs, 1V/octave and Hz/V options, DIN Sync	
Kenton	*Pro-2*	*£190*	*2*	*MIDI/CV converter*	
Kenton	Pro-2 Hz	£220	2	Pro-2 for synths running on Hz sync (such as Korgs and Moogs)	
Kenton	*Pro-2000*	*£230*	*2*	*CV and gate outs, 1V/octave and Hz/V options, DIN Sync, DCB, MIDI filter*	*Jun 97*
Kenton	Pro-4	£447		Multi-channel MIDI/CV converter	Oct 94
Kenton	*Pro-4 Hz*	*£547*		*Pro-4 for Hz sync synths*	
Kenton	Pro-DCB	£120	1	MIDI/DCB converter	Mar 97
Kenton	*ProSolo*	*£120*	*1*	*MIDI/CV converter*	*Oct 95*
Philip Rees	Little MCV	£77	1	MIDI/CV converter	Feb 97

MIDI GENERAL

MANUFACTURER	MODEL	PRICE	FORMAT	DESCRIPTION	REVIEW
JL Cooper	MSB V2	£399	8 In, 8 Out	MIDI patch bay and processor	
JL Cooper	*Nexus*	*£169*	*2 In, 8 Out*	*Programmable MIDI patch bay with transpose and mergable Ins*	
JL Cooper	Nexus	£109	3 In, 8 Out	MIDI patch bay	
JL Cooper	*Synapse*	*£1199*	*16 In, 20 Out*	*MIDI patch bay with 3-way merge*	
MIDI Solutions	2-Way Merge	£59		2-way MIDI merge unit	
MIDI Solutions	*Footswitch*	*£54*		*Converts footswitch actions to MIDI messages*	
MIDI Solutions	Mapper	£69		Remaps MIDI messages	
MIDI Solutions	*Quad Merg e*	*£99*		*4-into-1 MIDI merge*	
MIDI Solutions	Relay	£69		MIDI-to-audio switch	
Midiman	*MidiMerge6*	*£9*	*2 In, 2 Out*	*Self-powered MIDI merge box*	
Midiman	MidiThru	£29	1 In, 4 Out	MIDI splitter and Thru box	
Midiman	*SmartSync*	*£89*		*Smart Song Pointer/FSK/MIDI sync-box*	
Midiman	Syncman	£169		SMPTE-to-DTL/MTC synchroniser	
Midiman	*Syncman Plus*	*£169*		*SMPTE/SPP/DTL/MTC sync-box*	
Midiman	Syncman Pro	£299		Rackmount SMPTE box with LED	
Midiman	*Trans MIDI*	*£399*		*Wireless MIDI system; piggy-backs onto wireless mic systems*	
Midiman	Video Syncman	£449		VITC/LTC/MTC sync box and code translator	
Nobels	*MV-C*	*£121*		*MIDI volume controller hardware*	
PC Services	Micro-merge	£82	2 In, 2 Out	Self-powered MIDI merge	
PC Services	*Micro-thru*	*£23*	*1 In, 3 Out*	*Self-powered MIDI Thru box*	
PC Services	MIDI Switch	£34		4-way MIDI switch box	
PC Services	*MIDI Thru*	*£34*		*6-way MIDI Thru box*	

MAC

MANUFACTURER	MODEL	PRICE	FORMAT	DESCRIPTION	REVIEW
Altech	MIDIFace LX	£50	1 In, 3 Out	Serial port interface	
JL Cooper	*Mac Nexus*	*£75*	*1 In, 3 Out*		
JL Cooper	Sync Link	£219	2 In, 2 Out		
KCCM	*MIDIEdge*	*£45*	*1 In, 1 Out*		
MacMIDI	MacMIDI 2s	£420	2 In, 6 Out	32 MIDI channels, SMPTE, MTC	
MacMIDI	*MacMIDI1*	*£89*	*1 In, 3 Out*		
Midiman	Mac Syncman	£169	2 In, 6 Out	32 channels, SMPTE; stand-alone SMPTE box	
Midiman	*MacMan*	*£45*	*1 In, 3 Out*	*Pass-Thru*	
Midiman	MiniMacMan	£35	1 In, 3 Out	Compact interface needing no power supply	
MotU	*FastLane*	*£59*	*1 In, 3 Out*	*Thru switch for working without Mac*	
MotU	MIDI Timepiece AV	£649	8 In, 8 Out	8x8 interface with SMPTE. LTC video, ADAT Digidesign Superclock sync	Apr 97
MotU	*Pocket Express*	*£219*	*2 In, 4 Out*	*32-channel interface with SMPTE*	
MusicQuest	2 Port SE	£200	2 In, 4 Out	Filters message	
MusicQuest	*2 Port SX*	*£400*	*8 In, 8 Out*	*MIDI interface with SMPTE*	
MusicQuest	MIDIstrip	£49	1 In, 3 Out	Includes 5-foot serial cable	
MusicQuest	*MQX-32 M*	*£230*	*2 In, 2 Out*	*32 MIDI channels and SMPTE/MTC facility*	
Opcode	MIDI Translator II	£70	1 In, 3 Out	Switchable Thru	
Opcode	*MIDI Translator Pro*	*£130*	*2 In, 6 Out*	*Switchable Thru*	
Opcode	MIDI Translator Pro Sync	£230	2 In, 6 Out	32 channels, switchable Thru, SMPTE support	
Opcode	*Studio 64X*	*£269*	*4 in, 4 out,*	*MIDI interface, patchbay, SMPTE*	*Dec 97*
Opcode	Studio 3	£300	2 In, 6 Out	19-inch rackmount, SMPTE support	
Opcode	*Studio 4*	*£550*	*8 In, 8 Out*	*19-inch rackmount, SMPTE support*	
Opcode	Studio 5 LX	£1100	15 In, 15 Out	19-inch rackmount, SMPTE support	
Steinberg	*Micro Mac*	*£55*	*1 In, 1 Out*	*Basic MIDI interface*	

PC

MANUFACTURER	MODEL	PRICE	FORMAT	DESCRIPTION	REVIEW
Creative Labs	MIDI Adapter	£22	1 In, 1 Out	Adapter for SoundBlaster cards	
EES	*PC-MIDI 1/4*	*£99*	*1 in, 4 out*	*Parallel port interface, 64 MIDI channels*	
KCCM	MIDIEdge	£59	1 In, 1 Out	Expandable MIDI interface card	
KCCM	*MIDIEdge*	*£129*	*2 In, 4 Out*	*Expandable MIDI interface card*	
KCCM	MIDILink	£69	1 In, 1 Out	Serial port interface	
Midiman	*MM401*	*£59*		*Full MPU-401 interface card*	
Midiman	PortMan 2x4	£129	2 In, 4 Out	Parallel port interface	
Midiman	*PortMan PC/P*	*£89*		*MIDI parallel port interface for laptops and portables; includes driver*	
Midiman	PortMan PC/S	£89		Serial port interface for laptop and portable computers, PS/2-compatible	
Midiman	*Soundcard Cable/Module*	*£25*		*Soundcard MIDI adapter (4-foot male or 1-foot female)*	
Midiman	Video Producer	£249		VITC sync reader/writer, syncs to PC via MTC	
Midiman	*Video Studio*	*£279*		*Video Producer packaged with Samplitude software*	
Midiman	WinMan 1x1	£49	1 In, 1 Out	Includes Windows drivers	
Midiman	*WinMan 2x2*	*£79*	*2 In, 2 Out*	*Internal interface with Windows drivers*	
Midiman	WinMan 4x4S	£219	4 In, 4 Out	SMPTE, Windows drivers	
MotU	*MIDI Timepiece AV*	*£649*	*8 In, 8 Out*	*8x8 interface with SMPTE, LTC video, ADAT Digidesign Superclock sync*	*Apr 97*
MotU	PC-MIDI Flyer	£99	2 In, 2 Out	32-channel parallel port interface	
MotU	*Pocket Express*	*£219*	*2 In, 4 Out*	*Parallel port interface with SMPTE*	

MANUFACTURER	MODEL	PRICE	FORMAT	DESCRIPTION	REVIEW
Music PC	*MPC401MkII*	*£65*	*1 In, 1 Out*	*Basic MPU-401-type MIDI interface, with WaveBlaster socket*	
MusicQuest	MIDI Engine Note/1	£100	1 In, 1 Out	Parallel port MIDI interface	
MusicQuest	*MIDI Engine Note/1*				***REVIEW***
MusicQuest	PC MIDI card	£80		MPU-401 card	
Opcode	*Studio 64X*	*£269*	*4 In, 4 Out*	*MIDI interface/patchbay/SMPTE*	*Dec 97*
PC Services	MPC16	£53	1 In, 1 Out	Interface card with Windows drivers	
PC Services	*SC16*	*£30*	*1 In, 3 Out*	*Plug-in MIDI expander for SoundBlaster-compatible PCs*	
PC Services	SP16	£58	1 In, 3 Out	Serial port interface with Windows drivers	
Steinberg	*SMPII*	*£799*		*SMPTE/MIDI interface; requires DC/PC PC drive card*	

ATARI

MANUFACTURER	MODEL	PRICE	FORMAT	DESCRIPTION	REVIEW
Cimple Solutions	Extraports	£70	1 In, 3 Out	48 more MIDI channels via modem port (ST only)	
Heavenly Music	*STM*	*£13*		*Extra MIDI Out for modem port*	
Steinberg	Midex+	£475	2 In, 4 Out	Interface cartridge with SMPTE and 4 key slots	
Steinberg	*SMPII*	*£799*		*Rackmount interface and SMPTE processor*	
Steinberg	Studio Module	£159	1 In, 3 Out	For ST or Falcon	

PC AND MAC INTERFACES

Virtually every modern electronic musical instrument has a MIDI interface which allows one MIDI device to control or transmit MIDI data to another. For newbies, the most important thing to remember is that MIDI data is information such as note pitch and duration, not sound, which is produced by the device on the receiving end of the signal.

Most PC soundcards have a MIDI interface option which makes them cheap. Mac users need to buy a dedicated MIDI interface although there are lots available for well under a ton. Some interfaces, such as the Opcode Studio 64X, can work with both Macs and PCs – ideal for project studios and anyone who wants the best of both computer platforms.

Unless you're a one-keyboard muso, a single MIDI in and out is no longer enough. Trying to run two sound modules from one MIDI out means muting channels on the instruments. It's very faffy and very inconvenient. Plan for the future and opt for an interface with two, three, or four outs. Two or more inputs is useful, too, if you have a couple of keyboards or want to record SysEx data from a sound module. If you have a lot of gear, invest in a patchbay with eight or more outs. Many interfaces have additional SMPTE facilities or MTC support which can be a bonus if you need 'em and a redundant expense if you don't.

With the growing interest in analogue synths, MIDI-to-CV converters are becoming increasingly popular. Again, buy one with sufficient channels to meet your anticipated future needs. You must also makes sure the output is compatible with your gear. For example, Kenton's Pro-2 Hz is for synths which run on Hz sync such as Korgs and Moogs. • *Ian Waugh*

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KEYBOARDS

Alesis QuadraSynth S4 keyboard, 64-voice £400. Tel Tim on 01394 285548 (Felixstowe)

Casio CZ-101 polyphonic MIDI synth, in very good condition, boxed with manual and synthesis books £100. Tel 01553 762125

Casio CZ-1000 programmable analogue with MIDI £150. Tel Clive on 01843 863836 or leave message

Clavia Nord Lead 2 under guarantee, comes with case and SRAM £1,195. Tel 0468 647432

Commodore four-octave master keyboard, modulation, pitchbend wheels £60. Tel 01933 678608

Ensoniq ESQ1 digital wave synth, great sounds, easy to program, on-board eight-track sequencer and sustain pedal £300 ono. Tel Simon on 0181 541 3598

Ensoniq Mirage DSK late model, disks, manual £250. Tel 01604 843536 (Northampton)

Fatar G10 Plus five-octave master keyboard £180 ono. Tel 01326 340343

Kawai 100F very rare synth, 1978 mono synth, wide range of sounds possible, little use since '78, mint £160 or swap for programmable multi effects. Tel Sam on 01225 483808

Kawai K4 immaculate condition, sound cards plus Atari editing program £350. Tel John on 01364 631519

Kawai MDK61 MkII mother keyboard, velocity sensitive, assignable controller wheel, bank select £150. Tel 01539 822351

Korg 364 keyboard, 64-voice polyphony, 16-track sequencer, disk drive, multi digital effects, two months old, not used £500 (beat that!). Tel 01895 239926 (five minutes from the M25)

Korg DW8000 very good condition, manual, PSU £275. Tel 01283 840576 (Staffs)

Korg i5s as new, boxed, 320 preset voices, 64 user voices, 128 excellent styles, 64 user styles, disk drive, sequencer £600. Tel 01287 635356

Korg M1 keyboard/workstation, used on stage only a handful of times, A1 condition with manual £500, no offers please. Tel Paul on 01889 882849 (Staffs)

Korg MS20 twin oscillator, vintage mono synthesizer with patchbay, good condition £250 ono. Call Chris on 01273 387889 (Brighton area) or 0973 363946

Korg Poly 6 analogue synth, comes with special own aluminium stand which has own carry bag, tidy, excellent condition, manuals £260. Tel 0171 387 1834

Korg Poly 800 keyboard, analogue synth, MIDI, eight-voice polyphony, Detroit techno sound source, genuine reason for sale, no manual hence £150 ono. Tel John on 0121 454 1103 evenings (Birmingham)

Korg Prophecy and Trinity+ (with Prophecy board and playback sampler options fitted), both are still under warranty and unused, boxed with manuals. Prophecy: £475 ono. Trinity: £1,550 ono. Phone Alex on 0115 960 4514 or 01695 623968 (Nottingham)

Korg Trinity 12 simultaneous effects, 24Mb on-board sounds, 1,500 extra Korg sounds, touchscreen, massive visual interface, ribbon controller, serious workstation, 80,000-note sequencer, warranty, immaculate £980. Call Mikey on 01903 215795 (Worthing)

Korg Trinity ProX with sample playback option and full flightcase £3,000. Tel 0171 935 9719

Korg Wavestation excellent condition, boxed with manuals and two sound cards £450. Call Paul on 01824 702811 (Wales)

Korg Wavestation EX 2Mb more ROM, updated effects, very good condition £495. Will post. Tel 01261 815707

Korg X3 boxed as new, manuals plus five disks of sounds. Tel Ray on 0181 983 8228

Korg X5D mint condition, boxed, manuals, receipt, two months old £475 ono. Phone Till on 0181 402 5967

Korg Z1 new and boxed, too busy to get to play with it £1,400 ono. Tel 01564 742317

Kurzweil K2000S U3, P-RAM, fan kit, 64Mb sampler, synthesizer, sequencer, powerful all-in-one workstation, also has digital in, out and optical, multi outs, SCSI, only £2,500. Tel Robert on 00 31 20612 8667 (Amsterdam)

Moog Prodigy classic fat analogue sounds, two oscillators £250. Tel Chris on 0973 887147 day/night

OSC Oscar MIDI excellent condition, includes owner's manual £700. Tel 01274 616107

Quasimidi Raven with max expansion board £650. Tel 01932 228061

Quasimidi Technox synth, module, excellent condition £390. Tel 01788 537021 (Rugby)

Roland G-800 76 keys, mint condition, home use only. Tel 01986 788719

Roland JP-8000 synth, maximum creativity, four months old, with receipt and one-year warranty, perfect condition £750. Phone Jonathon on 0181 878 8541 (Richmond)

Roland Juno 106 good condition £395. Tel Joe on 0161 282 3984

Roland Juno 106 very good condition, with manual £400. Tel 0131 332 6557 after 6.30pm

Roland Juno 106 with flightcase £500. Tel Olly on 0191 272 2142 (Newcastle) or e-mail: o.r.style@ncl.ac.uk

Roland Jupiter 6 never gigged, boxed, manual, mint condition £695. Tel 01702 72462

Roland JX-3P analogue synth with MIDI and sequencer, good condition, manual £200 ono. Tel Jay on 01978 363241 or 01978 264015

Roland JX-10 24 oscillators, 76 keys, splittable keyboard, MIDI, bitimbral unison with PG-800 programmer, very good condition £680. Will post. Tel 01261 815707

Roland SH-101 vintage analogue synth, great dance sounds £250 ono. Tel Paul on 01793 421821

Roland XP-80 never used, unwanted gift, boxed with manuals and warranty £1,200 ono. Tel Dean on 0113 271 1221

Roland W-30 sampling workstation, comes with original box, manual and extensive sound library, immaculate condition, never gigged, severe debt forces reluctant sale £675. Phone Dan on 01222 842589 any time

Roland W-30 workstation/sampler/synth, hardcase, manuals, lots of software £500 ono. Tel Mike on 0113 244 4971 or page me on 07666 708859

Roland XP-50 as new, boxed, manuals and video manual, hardly used, bargain £800. Tel 0543 36495

Roland XP-50 workstation, only four months old, top sounds, sequencer, expandable, boxed with manuals, cable and stand £950 no offers. Tel Dave on 01942 795184

Roland XP-50 workstation with vintage sound card, immaculate, home use only £800. Phone 0113 216 4869 after 6pm

Roland XP-80 workstation, with fitted pop orchestra and experience expansion boards, boxed with full manuals, mint condition, complete with stand £1,400 ono. Tel Don on 01905 797419 or 0850 162831

Sequential Sixtrak rich sounds, analogue oscillators, arpeggiator, unison voices, with case and original manual £325 ono. Tel 01524 736158

Solton MS50 mint, home use only £999. Tel 01986 788719

Solton MS60 multimedia music station, absolute mint condition, very little home use, MIDI, disk drive, plus disks and demo tape, new stand, cost new £2,000, bargain £850. Tel 01633 612669

Stratus analogue synth, loads of features £120. Casio CTS-500 synth, good bass amp, lead sounds, MIDI £120. Call Clive on 01843 863836 or leave message

Technics KN3000 as new, home use only, complete with manuals and video manual, cost £2,495, will accept £975. Tel 0181 399 4383 (Surrey)

Technics SX-WSA1 synth, 64-voice, 32-part, excellent sounds £750. Tel Tim on 01394 285548 (Felixstowe)

Technics WSA1 rack synth, mint condition, boxed as new with manuals £700. Tel 01326 340343

Yamaha AN1x brand new, boxed with all manuals, still with 11 months warranty, genuine reason for sale, brilliant dance music tool £800 ono. Tel Ken on 07000 777567 or 0467 445488

Yamaha CS1x synth, 256 superb performances, over 600 individual sounds, three different effects simultaneously. Sounds like a bargain, doesn't it? And it is, at only £325. Phone Rich on 01268 773210 (Essex) after 6pm

Yamaha DX21 synth £150. Tel Gawain on 01926 419814

Yamaha PSR90 full-size MIDI keyboard, editable sounds, boxed, manual £90 ono. Tel Les on 0171 419 4285 (London)

Yamaha SY77 synth workstation, disk drive, effects, sequencer, excellent condition, boxed, manual £400. Tel 01788 537021 (Rugby)

Yamaha SY85 excellent condition, with sampled techno and dance loop disks, boxed and manuals included £500. Tel Jay on 01933 316584 after 6pm (Northants)

Yamaha TG33 vector synth £150. Tel Simon on 0161 860 6139

Yamaha TX816 with manual £800 ono. Call Jody on 0181 390 9457

SAMPLERS

Akai S01 sampler, upgraded memory, boxed, excellent condition £290. Tel 01788 537021 (Rugby)

Akai S20 16-bit stereo phrase sampler, eight-voice polyphony, full MIDI, unused, boxed as new with all disks, etc £380 ono. Tel 01225 702448 (Bath)

Akai S950 sampler, fully expanded, manual, excellent condition £600. Tel 0181 507 3836

Akai S950 perfect condition £425 ono. Tel Mike on 01985 847385 (Warminster)

Akai S1000 digital sampler, new disk drive, manual, 8Mb memory £700. Tel Richard on 01260 273252

Akai S1000 sampler, 12Mb, SCSI, library, perfect condition, £1,000 ono. Tel 0181 788 4585

Akai S1000 sampler, industry standard, internal hard disk, digital AES/EBU fitted, optical plus SCSI, 20Mb memory, home studio use only, absolute bargain £999. Tel Jonathan on 01924 381374

Akai S1000 sampler, upgraded to 8Mb, boxed, 100 floppy disks £850. Tel Simon on 01772 823016 (Preston)

Akai S1000 playback sampler, 8Mb, good condition £550. Tel Joe on 0161 282 3984

Akai S2000 sampler, 10Mb memory expansion, boxed, copy of manual and disks, good condition £800. Tel 0114 250 8699

Akai S1000 SCSI board fitted, 8Mb RAM, immaculate condition, boxed, manual, V4.4 software, Zip drive and SCSI lead £1,000, can separate. Tel 01268 452028 (Essex)

Akai S2000 sampler, 10Mb RAM, EB16 FX board fitted £650. Tel 01858 432659 (Leics)

Akai S2000 sampler, 18Mb, eight outputs, plus Zip drive, boxed with manual and disks, only few months old £900 ono. Tel 0131 529 3682

Casio CZ-101 manuals, ST sounds £100. Tel Paul on 01323 504711 (Eastbourne) evenings

Casio FZ-1 16-bit keyboard sampler, eight outputs, resonant filters, bargain at £500 ono. Tel 0370 413137

Casio FZ-1 16-bit vintage sampler, classic lo-fi machine, loops, filters, eight outputs, easy-to-understand manual, excellent condition, modest library. Put some dirt into your sampling! £360. Tel Andy on 01865 873951 (Oxford)

Casio FZ-1 keyboard sampler, 2Mb wicked techno house library, top filters, eight outs, manual £550 ono. Tel Graham on 0181 761 9155 after 6pm

Casio FZ-1 sampler, eight outputs, resonant filters, large LCD screen shows waveforms, 150+ disk library, manual £300. Tel Simon on 0161 860 6139

Casio FZ-1 sampler, keyboard version, 16-bit sampling, resonant filters, eight outs, graphical display. Sold with 2Mb memory, manuals and disks. Yours for only £325. Phone Rich on 01268 773210 (Essex) after 6pm

Casio FZ-10m sampler, 2Mb memory, very good condition £325 ono. Tel Mark on 0121 344 3942 (Birmingham)

Cheetah SX16 sampler, 16-bit, eight outputs, excellent condition, includes power supply and manual £250. Tel Dave on 0191 251 4062 (North Tyneside)

E-mu EIVx 64Mb, as new, 540Mb hard drive, still guaranteed £2,222. Also Kurzweil Micropiano £250. Tel 0117 914 4752

E-mu e64 10Mb, hard drive, hundreds of presets £1,450. Tel 01903 871511 evenings

E-mu e64 rackmount sampler with 16Mb memory, hard disk, CD-ROMs and CD drive, excellent condition £1,650. Tel 01294 553819

E-mu ESI32 8Mb RAM, SCSI, 100Mb Zip drive, CD-ROM, as new £700. Tel 01932 228061

E-mu ESI4000 Turbo 64-voice polyphony, on-board EFX, 10 outputs, digital in/out, amazing resonant filters, only one month old, it cost £1,499 but it is yours for only £1,250. Call Richard on 0171 288 0128

Ensoniq EPS16+ rackmount sampler, eight outs, effects, sequencer, resample with effects, boxed with disks, as new £600. Tel Phil on 01483 418711 (Guildford)

Roland DJ-70 sampling workstation features timestretching filters, sequencer and sound library £525 ono or swap for Yamaha SY85 or Yamaha CS1x. Tel Alan on 01922 441454 (Midlands)

Roland MC-202 with Kenton Pro 2 MIDI-to-CV converter £400 for the pair. Korg Poly 800 MkII £200. Tel Tim on 0115 942 2762 (Nottingham)

Roland MS-1 desktop sampler with 4Mb RAM card, stereo, loads of sampling time, easy to use £250. Tel 01933 678608

Roland MS-1s (two) DJ-friendly samplers, ideal for use with Groovebox, both mint and with manuals, one with 4Mb PCMCIA expansion £300. Other as standard £250. First one sold comes with Roland sample CD. Tel Strooz on 0118 934 2444 (Reading) evenings

Roland S-750 sampler, monitor, mouse, 10Mb, eight outs £950. Tel Simon on 01203 674526

Roland S-760 10Mb, superior filters, upgrade, immaculate, manuals £850. Tel Jon on 01394 274511 days, 01394 670622 evenings (Suffolk)

Roland S-760 32Mb, CD-ROM, SyQuest removable, loads of library £1,400. Tel Steve on 01507 463182

Roland S-760 sampler, 16Mb expansion kit, mouse, colour monitor, zip drive £900. Tel 01243 824305

Yamaha SU10 sampler, top condition, boxed as new, with CDs and manuals, quick sale, hence £175. Tel Marc on 01763 775771 (Herts)

Yamaha TX16W sampler, Typhoon software £400. Tel Tim on 01394 285548 (Felixstowe)

SEQUENCERS

Yamaha PSRSQ16 16-track sequencer disk drive, 200 voices, 269 styles, touch-sensitive, 23 percussion, home use only £450 ono. Tel Les on 01642 877664

Yamaha PSRSQ16 workstation, 16-track sequencer, full MIDI-compatible £425 ono. Tel 01203 680 764 evenings only or e-mail: rich.wall@virgin.net

Yamaha QY20 excellent condition, boxed, manuals £170. Also Alesis DataDisk £80. Tel Kevin on 01709 551288

Yamaha QY300 for sale, hardly used, boxed with manual £280 ono. Call Chris on 01350 728733

DRUM MACHINES

Akai MPC60 sampling drum machine with large library, in good condition £850 ono or swap for Yamaha VL1 or VL1m. Phone Dave on 0181 441 5656

Alesis SR16 drum module £140 ono. Tel Mitch on 0121 551 2079

Alesis SR16 mint condition, boxed with manual and footswitch £150. Call Strooz on 0118 934 2444 (Reading) evenings

Boss DR-660 drum machine, as new, boxed £200. Tel 01426 156530 (Cheshire)

E-mu SP1200 disks, manual, free E-mu t-shirt, offers. Tel 01604 843536 (Northampton)

Korg S3 drum machine with SMPTE read and write and jazz card £295. Tel Chris on 01296 386043

Novation DrumStation 808 and 909 sounds, eight outputs, all parameters, MIDI controllable, built-in distortion, as new, boxed, with manuals £30 ono. Plus Eurotech sample CD £30. Ring Pat on 0181 470 7309 or 01483 401407

Novation DrumStation unused, unwanted prize £380. Tel Paul on 01323 504711 (Eastbourne) evenings

Roland TR-707 manual, separate outputs £150. Tel 01604 843536 (Northampton)

Roland TR-808 analogue drum machine with manual and MIDI fit, mint condition £450 ono. Tel 0161 286 9709

Roland TR-808 and TR-909, both in perfect condition and include original manuals £900 and £800 ono. Seller pays shipment from Hong Kong. E-mail: hwmla@netvigator.com

Roland TR-808 drum machine for sale, very good condition £450 ono. Tel 0113 289 9622

SPD-11 drum pad, eight pads, built-in effects and expandable, hardly used £350. Tel Matt on 0121 472 3459

Yamaha RY10 drum machine, all excellent condition £100. Tel 01788 537021 (Rugby)

SPD-11 drum pad, eight pads, built-in effects and expandable, hardly used £350. Tel Matt on 0121 472 3459

Yamaha RY10 drum machine, all excellent condition £100. Tel 01788 537021 (Rugby)

COMPUTERS

Acorn Archimedes A440/1, 50Mb hard drive, 4Mb RAM, MIDI interface, 14-inch colour monitor, 16-bit *Armadillo* sampler including editing software, loads of software, great way to get into sampling £90 ono. Tel Richard on 01474 853213 (Kent)

Amiga 500 plus colour monitor and *MusicX* £100 ono. Tel Graham on 0181 761 9155 after 6pm

Amiga 1200 2Mb, colour monitor, *Octamed SoundStudio*, MIDI interface, sampler, printer, three disk drives, utilities and games £150. Tel Gawain 01926 419814

Amiga 1200 boxed, including sampler, MIDI interface, sequencers (*Bars & Pipes* and *Octamed*), effects and sample disks, manuals, games and magazines, all in very good condition £150. Tel Mike on 01522 885716 (Lincoln) evenings

Amiga A600 with extra memory, hard disk, loads of software including 303 emulator £100. CBM1084 colour monitor £40. Ideal sampling solution for those on a budget! Phone Nick on 01228 592791

Apple Mac 7200/90 complete with 14-inch monitor, keyboard, internal CD-ROM, 32Mb RAM, runs *Cubase VST*, 1.2Gb hard drive, all boxed, excellent condition £895. Tel Steve on 01429 222517

Apple Mac Classic 4/40, *Cubase V1.8* £150. Tel 0171 610 4920 or 0956 314979

Apple Mac LC computer, with bubblejet printer, MIDI interface and black & white monitor £300 ono. Tel Richard on 01296 696621 evenings

Apple Mac Quadra 650, 44Mb RAM, *Cubase XT*, *TimeBandit*, *ReCycle*, disks, manuals from new £850 ono. Session8 Nubus 8:8:2 interface, disks, manuals £1,250 ono. Excellent complete package. Tel 01636 611899

Apple Mac SE30 4/40, *Cubase V1.8* £150. Tel 0171 610 4920 or 0956 314979

Atari 1Mb, hi-res monitor, mouse, games, software and joysticks £200. Philips CM8833 colour monitor £85. Tel Alan on 0498 570517 days, 01375 401964 (Essex) evenings

Atari 4Mb, *Cubase* set-up, with brand new, unused, 14-inch hi-res monitor, manuals, MIDI leads, tutorial video, etc £325 ono. Tel 01628 637891 (Berks)

Atari 520 STFM 1Mb and SM124 hi-res monitor, mouse, sequencing software, MIDI leads and disks £150. Tel John on 01226 785996

Atari 520 STFM 4Mb, includes *Cubase V3.1*, mint £250. Tel Sean on 01843 297941 (Kent)

Atari 520 STFM with *Cubase V2* with all leads and manuals £120 ono. Call Toby on 0131 556 3002 after 6pm

Atari 1040 STE 4Mb RAM, hi-res monitor, all leads, cables, manual, etc. Ideal MIDI system, bargain for £230. Call 0956 505985

Atari 1040 STE 4Mb RAM, hi-res monitor, *Cubase* £160. Tel 01908 211131 or e-mail: ben.turl@virgin.net

Atari 1040 STE with hi-res monitor and *Cubase* £180. Tel 01903 871511 evenings

Atari 1040 STFM and 520 STFM with monitor and 2Mb RAM Cubase. Sale due to upgrade, buyer collects £200 ono. Tel 0956 960431 (London)

Atari 1040 STFM no monitor £60. Tel 0114 230 8537 (Sheffield)

Atari 1040 STFM with SM125 hi-res monitor, mouse and cables £150. Tel 01274 814790 (Bradford)

Atari Falcon 4Mb RAM, 127Mb hard drive, E-magic *Logic* sequencer, 4TFX, D2D, s/w plus business s/w, utilities, extra MIDI ports, bargain at £425 ono. Tel 0973 915269

Atari Falcon 030 14Mb, 65Mb hard drive, software, accelerator, manuals, mint £325. Tel 0114 230 8537 (Sheffield)

Atari Mega ST4 powerful 4Mb ST sequencing package, brand new monitor with warranty, *Cubase*, extra 16 MIDI outs, MIDI arpeggiator £300 ono. Tel Pat on 0181 470 7309 or 01483 401407

MORE OVER THE PAGE

Atari STE 1Mb, *Cubase*, no monitor £80 ono. Upgrading to PC so need cash. Tel 0121 434 4516

Atari STE 2Mb, SM125 hi-res monitor, mouse, various software, good condition £250 or possible part exchange. Tel Lindsay on 01903 713703

Pentium 166 3.2Gb HDD, 64Mb RAM, 24-speed ROM, Millennium graphics, AWE64, SW60XG, 17-inch monitor, *Cakewalk Pro Audio Deluxe*, plus Toolkit HP 70001 rewrite drive, 120W speakers, mixer software £1,899. [Oops, you forgot a contact number. Call in and we'll run your ad again.]

Pentium 166 3.2Gb hard drive, 64Mb RAM, 24-speed CD-ROM, HP 7000i Rewriter, 17-inch monitor, AWE 64, SW60XG, *Cakewalk Pro V6.01*, plus *Toolkit*, Zip, mixer, keyboard, 95 software £1,899. Tel Gary on 0181 574 7440 or 0973 325822

Pentium 166MMX audio/MIDI system, 32Mb, 1.6Gb hard drive, 24-speed CD-ROM, SVGA monitor, Yamaha MU10 soundcard, MIDI interface, MS mouse/keyboard, *Cubase VST, Soundforge V4.0, ReCycle, Office 97, Windows 95*, cost £1,399, sell for £790. [You forgot to include a number. Make sure you call in and let us know and we'll try again next month!]

Pentium 200MMX 32Mb, *Cubase*, MIDI, soundcard, 28.8 speed modem, Internet software, IBM monitor, keyboard, mouse, all leads, cost £2,000, sell £799. Tel Phil on 0171 614 2408 days, 0171 385 7269 evenings. Can demo

Pentium 200MMX with 32Mb RAM, AWE64 Gold, eight-speed CD-ROM, 2.1Gb ultra hard drive, fully configured and working, plus *Cubase V3.502, ReBirth*, may split, offers. Tel 0421 551087 (London)

HARDWARE/SOFTWARE

Atari hi-res monitor black and white, for *Cubase* and *Notator*, latest 14-inch model with sound, metronome, very good condition, with carton so can deliver if required. Two available at £75 each. Tel 0181 668 6077

Cakewalk Pro V5 sequencing software with digital audio, manuals included £60. Tel Toby on 0131 558 3002 after 6pm

Creative Labs AWE64 Gold soundcard, boxed as new £100. Tel Steve on 01482 341626 (Hull)

Creative Labs' *Notator* *V3.2* for Atari, dongle, manuals £75 ono. And Steinberg *avalon* sample editor V2.1, Atari £75 ono. Tel Mark on 0121 344 3942 (Birmingham)

Creator SL **for** Atari V3.1, with manual, dongle, boxed £150. Tel Chris on 01702 345985 (Southend-on-Sea)

Cubase VST Score V3.5.2 with plug-ins for Mac, all original. Tel Dan on 01493 330441 best offer

Cubasis Audio **CD-ROM** for PC (four audio tracks), absolute must for beginner £355. Tel Nige on 01298 26025

Digidesign *Session8* 8:8:2 studio, eight digital ins, plus eight digital outs, built-in four-channel mic/line mixer, ten subgroups, fully compatible with *Pro Tools V4.1* or *Logic Audio* £995. Tel 0131 225 4890

E-magic *Logic Audio* new V3.0, for Mac, still sealed, unwanted prize £375 ono. Tel 01223 501106

Emagic/Steinberg audio package for Mac, *Audiowerk8, Logic Audio V3*, Steinberg *ReCycle* and *ReBirth*, MotU *Pocket Express*, complete PCI MIDI/audio package, all still boxed, perfect condition £899. Tel Alan on 01442 878370

Evolution *Sound Studio Gold* MIDI and audio sequencer for PC, original version with manual £70. Tel 01642 475089 or e-mail: kingcoast@msn.com

IBM 6x86 P200 and processor £100. Tel Steve on 01482 341626 (Hull)

Opcode *Studio 4* eight ins, ten outs, MIDI interface with SMPTE support £150. Tel 01524 736158

PC shareware: *Fast Tracker V2.0, Cool Edit, Sound Gadgets Pro* and other samplers, all file formats, zipped down, five disks for £8. Also tracking advice wanted. Tel Phil on 01278 781560 after 5pm weekdays

Roland 14-inch colour monitor for samplers, digital RGB complete with special cable, works with S330, S550, S760, S750 and W50. Good condition, perfect working order £85. Tel 0181 668 6077

Roland SCC-1 high-quality 16-bit soundcard, Sound Canvas on a card, 317 sounds, eight drumkits, Cubase GS for Windows included free £60. Tel Chris on 01727 847900 days, 01767 601783 evenings

Steinberg *ReBirth* *RB-338* new 1.5 version, PC/Mac, boxed with manuals, as new £90 including p+p. Call Al on 01983 612537

Steinberg *ReBirth* *RB-338* techno micro composer, emulates legendary Roland TB-303 and TR-808, unwanted gift, quick sale £70. Call Mark on 0958 778169

Studio Vision Pro *V3.02* professional MIDI and digital audio recording, all disks, manuals £300. Also Galaxy universal librarian £100 free with *Studio Vision*. Tel 01524 736158

Turtle Beach Maui sample store soundcard for PC, boxed as new with 4Mb of extra RAM fitted £50 ono, absolute bargain for anyone wanting to make music on a PC (sequencer included). Tel Mike on 01787 280057

Turtle Beach Monterey soundcard, pro-quality sound plus sampling, 4Mb RAM and Turtle Beach sample CD. Sell for £250. Call Andy on 01706 356245 or e-mail: 106433.1105@compuserve.com

Turtle Beach Multisound classic soundcard includes Proteus module and MIDI in, out and thru £100. Call Steve on 01482 341626 (Hull)

Turtle Beach Tahiti duplex soundcard for PC £125. Tel 0114 230 8537 (Sheffield)

Turtle Beach Tahiti pro-quality hard drive recording card, plus Yamaha DB50XG daughterboard £150. Tel 0117 923 9122

Turtle Beach Tropez soundcard with soundwave editor and up to 12Mb sampling capability, manuals included £90. Call Toby on 0131 558 3002 after 6pm

Turtle Beach Tropez+ soundcard, 12Mb sample RAM upgrade, boxed with manuals, software plus PC-to-MIDI cable £225. Tel Phil on 01202 462837

Yamaha DB50-XG includes registered editor plus MIDI, two ins, four outs, PC MIDI interface, 32 channels in, 64 channels out, cost over £250, will accept £120. Tel Andy on 01706 356245 or e-mail: 106433.1105@compuserve.com

RECORDING

ADAT-XT good condition, low hours, flightcased and with EDAC-balanced loom £1,450 ono. Also Focusrite Green mic pre-amp £500. Tel 01992 587900 or 0976 738156

Aiwa XDS260 DAT recorder, unused, still in box, with remote control, leads and manual £199. Tel 0161 366 5299

Alesis ADAT eight-track digital recorder, excellent condition with box and manual £1,000. Tel 01279 654963 after 6pm

Alesis BRC for ADAT, as new £580. ADAT V4.2 low use £950. Both together £1,430. Will deliver in UK (cash on delivery). Tel Robin on 01992 575706

Allen & Heath GS1 mixing console 16:8:16, total of 32 inputs, complete with box, PSU, meter bridge, manual, six months old, hardly used, genuine reason for sale £600 ono. Tel John on 0121 454 1103 evenings (Birmingham)

Allen & Heath System 8/168 16:8:2 and eight tape returns £400. Tel Mike on 0161 740 9438

Ampex 456 two-inch tape on metal spools, used once as safety copies, boxed £45 each. Webber two-inch alignment test tape, hardly used, boxed £85. Tel 01482 448767

Cassette decks Nad and Aiwa, both very good condition £60 each. Call Zak on 0181 699 6100 or 0976 961167

Denon DNF MkII twin CD player, Citronic 150S sampling mixer, digital beatkeeper, gold phonos, five months old. Offers or swap for Akai SP1200 and difference. Tel Chris B on 0181 286 9261

Fostex A20 reel-to-reel, digit counter, two-track reproducer, memory store button, pitch control knob, two-speed in/out switch, three-head mastering recorder, class performance, full synchro, manuals, hardly used £300 ono. Tel 01954 789961 (Cambridge)

Fostex B16 multitrack recorder, first-class condition inside and out, much pampered friend, complete with R2D2 trolley, tape £1,200 ono. Tel Chris on 01702 345985 (Southend-on-Sea)

Fostex DMT8 with extra 6.4Gb of Quantum Fireball hard drive, boxed as new, under warranty until summer £1,200 ono. Call Steve on 01482 341626 (Hull) after 6pm

Fostex DMT8VL version 2, eight-track digital portastudio, 2.4Gb, hard disk only, two months old £650. Tel 01858 432659 (Leics)

Fostex E16 16-track reel-to-reel, quick sale £950. Tel 0181 905 5917

Fostex M80 analogue eight-track tape recorder, home use only, includes rackmount ears £395. Also PPS synchroniser, syncs tape to MIDI clock, MTC £70 or £450 for both. Tel Mike on 01730 266078

Fostex R8 multitrack recorder, complete with five 15-minute reels, excellent condition £450. Call Barnaby on 0181 299 9800

Fostex X28H four-track recorder, unused condition, with manual and power supply £170 ono. Tel Alex on 0115 960 4514 or 01695 623968 (Nottingham)

Intimidation Don 2 DJ mixer for sale, features bpm counter, kill switches, drum base, etc. Barely used, home use only, as new £420. Tel 01203 775477

Mackie 12-channel, eight-buss mixer, plus two Fostex D80s, all boxed as new, excellent 16-track studio, serious offers. Call Mike on 01753 620342 any time

Mackie CR1604 16-channel mixer, home use only, near-mint condition, superb quality, boxed, manual £500. Tel Steve on 01403 268292

Mackie CR1604 with rotapod, boxed, manual £550. Tel 01268 452028 (Essex)

Peavey Unity 2000 16-channel mixer, two effects and two monitor mixes, flightcased, very good condition £550. Tel Ian on 01706 659371 (Rochdale) after 5pm

Philips DCC730 lots of tapes, remote £150. Tel Paul on 01323 504711 (Eastbourne) evenings

Roland VS-880 with effects board, SCSI, Jaz drive, two 1Gb Jaz disks, superb condition, boxed with all manuals £1,400. Tel Paul on 01926 316607

Roland VS-880 FX hard drive and upgraded software, boxed £1,300. Tel Ian on 01604 858337 (Northampton)

Seck 12:2 mixer, very good condition, no noisy pots or faders, three-band EQ, four auxs, manual, PSU, carry case £120 ono. Must sell. Tel Dave on 01642 459355 (Middlesbrough) evenings

Sony MDM-X4 recording deck, six channels, four tracks, MiniDisc format, as new, with carry case and blank disc plus European transformer for mains £550 ono. Tel Nic on 0121 422 3197

Sony TCDD7 portable DAT recorder/player, Sony ECM stereo mic and digital I/O cable included, as new condition £400. Tel Alan on 01442 878 370

Spirit By Soundcraft Folio notepad mixer, as new, boxed £115. Tel 0114 230 8537 (Sheffield)

Spirit By Soundcraft Folio SI 18:2, good condition, home use only, flightcase £350. Tel 0171 326 1134

Studiomaster Mixdown Gold 16:8:16:2 MIDI mutes, flightcase, mint £550. Tel Mike on 0161 740 9438

Studiomaster Pro Line mixing console, 24:8:16, one owner from new, home studio use only, manual and quality dust cover, cost over £2,000, will sell at £650. Tel Jonathan on 01924 381374

Studiomaster Series III modular mixing console, 19 mono, five stereo, eight tape return inputs, six aux sends, flexible EQ with two sweepable bass/mid EQs, solid build, great quality, mint condition, quick sale £800 (cost £5,000). Tel Matt on 0966 268564

Tascam 38 eight-track, two dbx units, six tape reels, Phillip Rees synchroniser, Atari 1Mb computer and monitor, Emagic *Creator* £1,300 ono. Tel Mitch on 0121 551 2079

Tascam 488 eight-track portastudio, double-speed, dbx noise reduction, two FX sends, 12-channel mixer £400. Tel Chris on 01296 386043

Tascam 488 eight-track portastudio, little used, in box with manuals £499. Tel 0161 366 5299

Tascam 488 portastudio, eight-track with built-in mixer. Phone Nobby on 01293 442703 or 403342

Tascam 564 digital portastudio, MiniDisc, mint condition, two data discs £700. Tel Sean on 01843 297941

(Kent)

Tascam 688 eight-track cassette multitrack recorder with MIDI sync, muting, 20-channel mixer, dbx noise reduction, and electronic routing. Great sound, good condition £700 ono. Tel Chris on 01727 847900 days, 01767 601783 evenings

Tascam DA20 unused, boxed with manuals £500. Phone Adam on 01223 517402

Tascam DA20 MkII with remote control, three months old, unused, boxed with manuals, industry standard machine £600. Tel Nigel on 01703 324922

Tascam M208 8:4:2 mixer in good condition £200. Contact Keith Salmon, Flat 1 (GFF), 26 Nightingale Road, Southsea, Hampshire PO5 3JL

Tascam M1516 recording mixer, 16:8 input with four outputs, four aux sends for effects (two stereo) group outputs for multitrack recording, bargain £500. Tel Matt on 0121 472 3459

Tascam M3500 32-channel desk, 64-inputs, full meter bridge, four-band EQ, six auxs, pro desk, better than a Mackie, in excellent condition with manual and looms £2,700 ono. Tel 0956 447111

Tascam Porta07 excellent condition, boxed with manual £245 ono. Tel Phil on 01296 426690

TEAC M144 four-track portastudio (Tascam), needs transport repair hence £50 plus postage. Tel 01933 678608

Technics RSTR575 double cassette deck, six months old, boxed as new, excellent condition, retails at £300, sell for £150. Tel David on 0121 430 7706

Yamaha MT3X multi four-track recorder, mint condition for sale or swap for Novation BassStation or any outboard gear £200 ono. Contact Alex on 0151 513 1106

Yamaha MX400 16:4:2 mixer, three-band EQ, five sends, inserts on every channel, five months old, fitted flightcase £1,300. Tel 01523 162502 and leave message

Yamaha Pro Mix 01 digital mixer, 36-bit EQ, three compressors, two digital FX, motorised faders with dynamic automation, rackmount housing, mint, bargain at £950 or swap for top sampler. Tel 0141 423 5922

Yamaha Pro Mix 01 digital mixer with MIDI, two FX, three compressors, parametric EQ, excellent value £1,050 ono. Tel 01294 553819

AMPS/PA

Complete Peavey PA system, series 3 mixing desk (16-channel), two SP2 speakers, two FH1 bass bins, CS400 amplifier, CS800 amplifier and case, assorted leads, speaker leads, XLR connectors, multicore £3,000. Tel 01705 824958

DNA 600W power amp, active crossover, bass cabinet with 15-inch 300W speaker, mid cabinet with Bullet tweeter and McKenzie mid range £650 ono. Tel Steve on 01268 785590

Linear Phase AT 8810 studio monitor speakers, three-way with 12-inch woofer, two-year warranty, only one month old, would cost £1,900 new, going for £1,000 ono. E-mail: jdw8@ukc.ac.uk

TOA PA system 380W/ch. power mixer with graphic EQ £500 ono. Also digital audio workstation for sale. Tel 0370 413137

Yamaha P3500 1,000W amp, cased with seven free rack spaces, very good condition £480. Tel Ian on 01706 659371 (Rochdale) after 5pm

EFFECTS

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ART FX-1 dual FX processor, 60 presets, boxed in mint condition, six months old £80. Tel 0115 966 3431 or e-mail: heringtonmoulin@thenet.co.uk

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ASH HOWES

A mixer, producer and engineer who believes in flexibility and diversity

Ash Howes likes it fast and furious

Ash Howes' studio career began after leaving college in 1988. He'd played in numerous bands, but his love of Japan and David Sylvian convinced him that what he wanted to do was make records. Being a musician gave him the upper hand in achieving his aim, but he still needed to take the traditional engineering route. He got on the case, and, 150 letters later, he was employed as an assistant at Gallery Studios, owned by Roxy Music's Phil Manzanera. He moved swiftly through the ranks and was soon recording, programming and mixing Phil's productions. While working with Shakespear's Sister, he hooked up with Dave Stewart, who hired him to mix Alisha's Attic's debut album. Following that, he remixed the bulk of Texas' *White On Blond* album with the band. His musical background combined with his commercial sensibilities make him a highly in-demand engineer and mixer, while his flexibility and non-conformist approach to equipment make him a unique entity. Ash is in demand for a variety of productions, but keeps his roots firmly in place. He's still working with Dave Stewart, currently mixing the debut album for new band Hillman Minx. Ash is also still in with the Roxy Music crowd, engineering and mixing Bryan Ferry's new solo album. Nick Serre managed to catch up with him as the project was winding down.

How is the Bryan Ferry album going?

We're still putting the finishing touches to it, so I guess there's a couple more weeks to go, but it's been going really well and it's sounding great. Originally, I was brought in to try out a couple of mixes, but I've been there quite a while now. Stylistically, I've been able to draw on influences from earlier work. The thing is that if you're into a number of different styles of music, you can bring all your previous knowledge to the next project, which was my thinking behind this recording.

You've worked with a diverse range of artists, from Terry Hall to Maxi Priest. Was that a conscious decision?

Actually, it's a mixture of what I get offered, and what I'm personally interested in. What I really like about this job is that you can be working on one kind of music one day, and then something completely different the next. That's so refreshing, and makes the whole process more fun. Obviously the industry does try to categorise you to a certain extent, but it helps to cover a broad base of music, both for the benefit of the band and your own material.

How did the collaborations with Dave Stewart come about?

About 18 months ago I was asked to do some guide instrument parts for one of the tracks for Shakespear's Sister's forthcoming album. Dave went off to India to record an orchestra, and when he came back and heard what I'd done he asked me to finish the whole track. He was going to take it to America to mix it, but felt we could do it just as well here. That was the first thing I did with him. Then we did the Alisha's Attic album, and the Texas album. Again, I'd originally done a couple of tracks, but the band called me and asked me to do the bulk of the album.

What producers do you admire, and why?

Well, I really like working with Dave Stewart. He creates a great atmosphere, and he's into working fast and furious to capture the moment. I really respect Flood, too, for the fact that a lot of his productions aren't traditional or mainstream, they're really dark in atmosphere, but they're massive successes. Educating the masses to a certain degree that way is brilliant. I was always into Japan and David Sylvian; some of the acoustic sounds on their stuff are simply astounding. Sound-wise, Trevor Horn's tracks have always grabbed me. The first Seal album was just perfect for him and the time. I guess two of my favourite productions are U2's *Achtung! Baby*, and David Sylvian's *Brilliant Trees*.

What do you value in a production?

The most important thing is to create an environment where creativity can flow. Making music should be enjoyable, not an ordeal. You can't expect a musician or artist to give a great performance if they have spent hours waiting for you to get a sound for them. Getting great sounds should be second-nature, and as immediate as possible. Then you can get on with the music, which is ultimately why we're all in this business. Sound-wise, I love big vocal sounds where the vocal leads the track. If you have a great singer, it really grabs the listener's attention, and works really well on the radio.

What sort of equipment are you using? Any particular favourite bits of kit at the moment?

As far as desks are concerned, I'm happy on Neve, SSL and Euphonix; I'm not really one for using the same gear time and time again. I think using different gear can throw new light on your work. As long as the equipment is of a good standard, you should be able to make a great record. Ultimately, it's the people that are the most important. On the Bryan Ferry album we've been using the Radar, which is great. For recording it's just so easy, and you've got all the editing facilities, and a great sound. One of my favourites, though, is the Zoom 1201. It's under £100 but the lo-fi effects and ring modulation are fabulous for all kinds of processing. It just adds a wonderful grainy and dirty sound. Monitoring-wise, I'm actually happy with the old benchmark NS10s. I've tried to get away from them so many times, but when you've done so much work on them, you know exactly where you are. I'm also a big fan of Genelecs, and KRK 9000s; for main monitors I really like the Dynaudio M4, and The Church has got a great Boxer system.

Who would you most like to work with, and why?

As I said, I've always been a big fan of Japan, so to work with any, or all, of them, would be quite a thrill. For me, though, the most exciting thing is working with new acts. When you're creating something new there's always that optimism, and it can be very pioneering, that sense of the unknown. That's the aspect that I most enjoy.

Do you have a standard production technique, or is each project unique?

The thing you always need to remember in production and mixing is that you're making the artist's record, not your own. They're the ones who have to be proud enough to go out and promote it. If I feel strongly about something, I'll always try and get my point across, but ultimately it is their record. What I love about making records is that there are no rules, you really can do what you want and create something new. Going out on a limb and trying something different is just so refreshing.

What's next for you?

I'm producing a single for a band called Rare, who are excellent. More mixes for Alisha's Attic, and producing some tracks for a Sony band called Celtus. I'm also writing and producing tracks with a new artist called Halima, so I'm gonna be pretty busy.

Better let you get on with it, then.

Cheers!

• *Nick Serre*

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